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AN IMPROVED

SYSTEM OF MNEMONICS;

OR

Art of Assisting the Memory,

SIMPLIFIED,

AND ADAPTED TO THE GENERAL BRANCHES OF LITERATURE;

WITH

A DICTIONARY OF WORDS,

USED AS SIGNS OF THE ARITHMETICAL FIGURES.

Καὶ μὴν Ἀριθμὸν ἔξοχον σοφισμάτων
Ἐξεῦρον αὐτοῖς, Γραμμάτων τε συνθέσεις,
Μνήμην θ', ἁπάντων Μουσομήτορ' ἐργάνην.

Æschyl. Prom. Vinct. 468.

"Mother of Wisdom! thou, whose sway
"The thronged ideal hosts obey,
"Who bid'st their ranks now vanish, now appear,
"Flame in the van, or darken in the rear."

"While every flower in Fancy's clime,
"Each gem of old heroic Time,
"Cull'd by the hand of the industrious Muse,
"Around thy shrine their blended beams diffuse."

MASON on Memory.

BY THOMAS COGLAN.

MNEMONICS, VOL. I.

CONTAINING THE
PRIMARY ARRANGEMENT OF THE SYSTEM,
APPLICATION TO FIGURES,
CHRONOLOGICAL ASSOCIATIONS,
AND THE MULTIPLICATION TABLE ARRANGED IN A NEW MANNER
FOR LEARNERS.

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DEDICATION.

TO HIS

ROYAL HIGHNESS

THE DUKE OF SUSSEX.

SIR,

Honoured by your permission to dedicate to your ROYAL HIGHNESS, this *System of Mnemonics*, I shall endeavour, in expressing my Gratitude, to prove myself in this instance, not unworthy of your Patronage, by avoiding the fulsome panegyrics that are too frequently used on similar occasions; satisfied that if your Royal Highness's reputation, required the flimsy aid of flattery, I should not derive honour from this inscription, nor your Royal Highness credit from such eulogium.

I feel proud in being allowed to usher this production to the public, under the auspices of your Royal Highness, whose honourable exertions, in promoting the diffusion of useful knowledge, are so well known throughout the Empire.

With the hope that its utility may be appreciated by your Royal Highness,

I subscribe myself, with great respect,
Your Royal Highness's
Obliged and obedient Servant,

THOMAS COGLAN.

London, June 30, 1813.

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PREFACE.

IN introducing this system to the Public, the Author feels the necessity of stating the motives that chiefly influenced him, in presuming to appear before so high a tribunal.

Having delivered Lectures upon Mnemonics, in most of the principal towns in the kingdom; wherein he unfolded their general principles, and particular arrangements, with instructions how to adapt them to many of the leading branches of literature; he had the pleasure of observing the gratification, which the knowledge of the art gave to the greater part of those that attended him, who were generally anxious in their enquiries, whether he meant to publish the system, which they conceived would be useful as a book of reference, either to direct their own operations, or instruct their families; not a work merely to explain the theory, but in it also to furnish associations for several subjects, that are frequently studied, and by many deemed essential to a good education.

To render it useful, this latter part was considered indispensable; for although the ingenuity, and utility of Mnemonics were generally admitted, yet objections were often started to them, by stating the difficulty, or apparent difficulty, of making proper or suitable combinations, which the art required.

These objections were urged, particularly by those persons, that were either engaged in business, or other pursuits, who were desirous of commiting the assimilations to memory, but were not inclined to take the trouble of making them.

Although the Author conceives himself to be unequal to an attempt of this kind, either to gain reputation for himself, or to il-

lustrate the advantages of the system; yet, thus solicited on one side—and strongly convinced himself on the other, that his arrangements may be found useful; he ventures to offer them to the world, with all those hopes and fears, which generally assail a writer, that feels an honest anxiety to gain public support.

As the culprit who pleads his own cause, if he knows any thing of human nature, is desirous of ingratiating himself with his judges; so, many Authors actuated by similar motives; anxious to mitigate the severity of criticism, endeavour to effect their purpose by well told tales of pressing occupations,—urgent invitations to publish, &c. &c. occasioning the premature birth of their embryo muse,---exposing it to the inclemencies of the *Northern* blast, ere they had cloathed the first rude essay of their minds!—Thus rendering it difficult to discriminate between those, who are *really* so situated, and those who are only *poetically* so.

The writer of these pages knows, that if he attempted to divert the Critic's censure, by similar declarations, that (generally considered) he has no means of securing himself from the usual charge of *cautious fiction;* but his friends—his acquaintance, will, he feels confident, recognize the veracity of his assertions; when he states, that situated as he has been for some time; residing in a town scarcely more than a fortnight at one period—a considerable portion of his time engaged in passing from place to place, often at great distances—Lecturing—preparing for Lecturing, &c. &c.---that his writing must be so frequently interrupted, as materially to derange that continuous chain of thought, which is necessary to be preserved, in giving effect to the most simple operations of the mind. Such has been his case throughout this little work, which he hopes will plead in his favour for the imperfections that may be found in it.

Although a considerable part of this System is the result of the Author's own efforts: he has neither the folly, nor the vanity, to lay claim to originality for the outlines of it.---The leading principles, are the same as those practised by the Greeks and Romans; that were applied by no less a personage than the accomplished

Cicero, who did not consider it to be unworthy of the dignity of *his* mind, to call in the assistance of art, to aid the eminent powers he possessed from Nature.

Various ingenious treatises on Mnemonics have been published within the last three hundred years, in France, Germany, Rome, Venice, Franckfort, and England; but the general cultivation of the art, appears to have been suspended for some time, until its recent revival in Germany; an account of which may be seen in the Philosophical Magazine of December 1806---It states that the science of Mnemonics was then taught with great eclat in Germany, by M. Aretin, who may be accounted the restorer of it: that he had permitted a pupil of his, M. Kœstner, a Clergyman, to teach it at Leipsic; but exacting a promise from him, not to suffer his pupils to write down his Lectures.

In the year 1807, Mr. Feinaigle, a native of Germany, publicly taught the system at Paris; since which period he visited England, and has met that encouragement which ingenuity and talent generally receives in this country. To that ingenious foreigner we are indebted for the revival here, of a useful branch of knowledge; or rather a useful system, to enable us to acquire knowledge with greater facility; and although we may not be disposed to admit its importance, to the extent he announces; it must be allowed by all who have studied and applied it, to be materially useful in many subjects.

To Mr. Feinaigle's Basis of the Mnemonic art, the writer of these pages owes a considerable portion of his.---The foundation he gratefully acknowledges he derived from him, by attending a course of his Lectures; the superstructure has been raised by himself. He found that Gentleman's plan truly ingenious in many parts; although he cannot avoid observing, that it had (not merely to himself but to many others) a most formidable and unwieldy aspect at first view. As nothing human is perfect, and as plans and systems devised by the greatest geniuses, have often received helps from very moderate talent; the writer had the boldness to attempt improvements; whether he has succeeded or not, the Public, or

that part of it which is acquainted with Mr. Feinaigle's method, and his, must decide.

To shew that real improvement, and not change, was his object; he has adopted those parts of Mr. F.'s system, which he conceived desirable; although it would be easy, so to new mould the whole design, as to make it have very little appearance of the plan taught by him. But as the writer knew, that a portion of the intellectual part of the community had attended Mr. Feinaigle's Lectures, he sought to make such changes as would be efficient, and at the same time render it tolerably easy for those persons, to adopt the present arrangement (if they felt its importance) without much difficulty.

He has therefore retained several of the consonants used by Mr. F. to represent figures; as he found that they would answer the intended purposes, as well as any others he could select; but to give an *equality* of *strength* to that part of the system, he was necessitated to make some changes, which renders their powers more equable.---He found that by his arrangement, some figures were capable of being expressed by twenty or thirty times the number of words, that could be found for others; this has been remedied in a great degree by the present alteration. He has also given characters for millions, thousands, and fractions; not done by Mr. F.

The symbols he has entirely changed for others that he has found to be superior; the advantages resulting from this change cannot be duly appreciated by any, but those who have become tolerably familiar with the system. The Mnemonic student will feel the force of his remarks when he observes, that symbols are devised to be the repositories of our thoughts, to aid our recollection, by referring to them as the media of reminiscence; two principal things are therefore necessary to be attended to in their choice.

1st. That they should be of that nature, which may enable the person who applies them, to commit them quickly to memory; and also to recal them in any order that may be required, with as little mental exertion as possible.

2dly. That they should possess the qualities, of being readily

made subservient to our various purposes, in all the combinations to which they may be applied.

To effect the first object, Mr. Feinaigle formed his symbols in the same manner as Joannes Romberch's, published at Venice in 1562--intending them to represent in form, the arithmetical figures in the order of their notation; in this he has succeeded only to a certain extent; the first eleven, and a few others, are tolerably well managed, but in the greater part the student derives but little help from that source. Indeed, to succeed in a very indifferent degree in delineating them, it is evident that they must be very much distorted, and it is necessary to have recourse to confused and heterogeneous assemblages, to be able to produce any thing like resemblance.

In this point, the symbols used in the following work will be found (the writer flatters himself) decidedly superior; as the attentive perusal of his third chapter he thinks will prove.

In the second object, which is of greater importance than the former, he thinks himself still more successful; for nearly the whole of his symbols are the portraits of human beings, intended for Mnemonic reanimation; or Gods and Goddesses, that can readily be made either mortal or immortal, as we may require; whereas Mr. F. has thirty-one, that are inanimate; such as finger posts, mausoleums, or fire engines; and eleven, that are quadrupeds, &c.; in all, forty-two out of one hundred.

As it is desirable, that these symbols should be as potent as possible, they will be found useful, in proportion to their approximation to our own characters and feelings, real or assumed. To be the depositories of our thoughts, they should be able to think, they should have the powers of locomotion and action. Thus Gods, Goddesses, and human beings, are superior to sensitive or irrational animals: those are again superior to inanimate substances. Human beings can be made to express every thing that we wish to impose upon senseless objects; whilst the latter cannot, with even Æsopian powers, be made succedaneums for the former. We frequently require our symbols to reason, to talk, run, sing, dance, leap, &c.

&c. which cannot be very conveniently done by a "looking-glass" or a "pillar."

In this view of them, the author disapproves of the few of his own, that are of a similar description: to make use of his seventh symbol, the *Oak*, he is very frequently obliged to suppose a boy or a man in it; which being out of the natural order, may be forgotten; as not being a permanent object.---*Mount Ida* answers his purpose, by selecting Paris or Venus occasionally; as the ship *Argo* is found tolerably efficient, by employing Jason.---Those are the whole of his inanimate symbols. He has also only five of inferior animals, that are upon a par with any of a similar class in Mr. Feinaigle's.

In Geography, Mr. F. independent of his Mnemonic aids, wishes to appear as a reformer of the "*unscientific method*" of having East and West longitudes instead of being all East.---To have also a certain general meridian; disapproving of the practice of modern nations in selecting their own capitals, &c. as the points from which they make their calculations.

This is only reviving the old method, practised when geography was imperfectly known, before the discovery of the Western hemisphere, when a certain line, supposed to be the extreme of the earth on that side, was assumed as its boundary; when all to the right or East of it, was then the most easy way of calculating distances. But the discoveries of Columbus, and the demonstration of the spherical form of the earth, have rendered the terms East and West purely relative. But even admitting the neatness, or partial superiority of that mode, it is objectionable in this country, or any other, where long established custom has stamped the seal of authority upon a different plan. To commit to memory the longitudes of places from Ferro, would subject the student (if he wished to be understood by others) to the unpleasant task of always adding or subtracting the difference of 18 degrees. Thus a place, which he says is 37 degrees East longitude from Ferro; to reduce it to the English meridian, he is forced to deduct 18 degrees from it, leaving 19 degrees; as a place 45 degrees east from London, to recognize its position, he is obliged to add 18 degrees to it, to know that it is

63 degrees from Ferro. The adherence to the scheme of *all East longitude* is still more complicated. The mode of proceeding is thus described by a person who professes to give the substance of Mr. F's. lectures.

" If (by our common method) a place be described in longitude 121 degrees west of London, to reduce it to the meridian from Ferro, 121 degrees must be subtracted from 180 degrees (the whole number of degrees West) the remainder is 59, which, added to 180 degrees, and the 18 degrees difference between the calculation from London and Ferro will give the product 257 degrees---a place then which is 121 degrees West of London may be said to be 257 degrees East of Ferro, this process is at once simple and correct!"

After this quotation, it will be unnecessary to advance a single sentence about its *simplicity !*---A child practising according to this plan, would be very expert in describing the distances of places, to another, not in the secret.

In the Geographical part of this work, a different plan will be pursued; the meridian of London adopted, with East and West longitudes, the *exact distances* of the principal parts of the world associated; which were not in any one instance done by Mr. F.; who merely exhibited a few desultory assimilations, by which plan the student could tell only the distance of a place, within 10 degrees of longitude or latitude, or at best could only guess at its situation in a square of 10 degrees.

Mr. Feinaigle's historical arrangement is also objected to; as being too diffuse, requiring a greater number of apartments than any individual can command. His directions to *imagine* other rooms, will be found (if practicable) very inferior, to having the repesitories of our thoughts actually before us when we employ them. Many other parts of the system have undergone similar changes, which the Author hopes will be found improvements.

On every subject connected with Education, there will be a considerable diversity of opinions amongst men of enlightened minds and liberal characters; therefore a general approval of this work is not anticipated by the writer.---Some will always disapprove, that they may

shew their superiority, or display their critical powers; others again, he has known, who in one sweeping attack, would not allow a single portion of Mnemonics to be useful; who, when interrogated to point out the defects, shewed that they were completely ignorant of the whole system. Such, or similar characters, are happily described by Dr. Johnson:—"There are some men (says the Doctor) of narrow views and grovelling conceptions; who, without the instigation of personal malice, treat every new attempt as wild and chimerical; and look upon every endeavour to depart from the beaten track as the rash effort of a warm imagination, or the glittering speculation of an exalted mind, that may please and dazzle for a time, but can produce no real or lasting advantages. These men value themselves upon a perpetual scepticism, upon believing nothing but their own senses, upon calling for demonstration where it cannot possibly be obtained; and sometimes upon holding out against it, when it it is laid before them. Upon inventing arguments against the success of any new undertaking, and when arguments cannot be found, treating it with contempt and ridicule. Such have been the most formidable opposers of the diffusion of knowledge, for their notions and discourses are so agreeable to the lazy, the envious, or the timorous, that they seldom fail of becoming popular, and directing the opinions of mankind."

INTRODUCTION,

THE bases of the Mnemonic art, are *Method*, *Locality*, and *Association*; the advantages of the first, in every branch or department of science, literature, and mechanism, must be obvious to the meanest capacity;—by classification or arrangement, science has been enlarged beyond the formerly supposed boundaries of human knowledge;—literature has derived the greatest assistance from it, and by it improvements in the mechanic arts have been considerably accelerated. In the acquirement of knowledge, no natural powers of memory, however considerable without system, can atchieve so much as an indifferent, or tolerable memory, with it.

The advantages to be derived from locality, cannot be so well demonstrated; they can only be appreciated by those who have reduced it to system; but the casual effects that places have, in recalling ideas, must be acknowledged by all; for there is scarcely a human being in any rank or walk of life, that has not felt their influence. Who that has past his early years, exposed to a variety of pleasing and unpleasing sensations, having been separated from the scene of former joys, and after a lapse of time, returns to the well-known spot, that does not find a thousand impressions revive by the most trivial objects in nature? The sight of a tree perhaps renews a sensation, which instantly recals the remembrance of having formerly climbed it; or having been sheltered by its branches, from the intenseness of the summer's heat, or the drenching storm; other ideas emanate from it or similar objects. Every apartment in our residence, serves to recal former happiness or sorrow; our friends,

our sports, our griefs revive; circumstances that for years were dormant, rush to our recollection, with nearly all the force of their original impressions. Here we see a fond parent; perhaps now no more, gazing on us with paternal tenderness, when with light hearts, bounding with anticipated joys, we left our paternal residence, to seek imagined bliss in distant scenes. In this apartment, a sister delighted to sit; in that, a brother smiled, caressed, or chid us.—If perchance we should visit the alternately loved and hated school, to which we oft have crept or ran, could we avoid directing our eyes towards the form on which we formerly sat, we should plainly see the elevated seat from whence the appalling mandate *Silence*, used to issue, even though every vestige of literary apparatus had totally disappeared.

But the power of renewing former impressions, is not confined to places that we have been accustomed to; wherever our imagination roved or dwelt with peculiar interest, the recurrence of our thoughts to the scenes that fancy painted, never fails placing in array the train of reasoning, or events that attracted our attention. —when, for instance, we think upon the plains of Pharsalia, the fields of Agincourt or of Cressy, we soon embody the armed hosts; Here a Cesar, there a Henry or an Edward, fought and conquered; we see the field covered with slain; the warriors animating their followers; here we fix our eyes upon a single chieftain, follow him through the various ranks, observe his "hair-breadth 'scapes," as described by the historian, and finally see him triumphant, the laurel encircling his brow. If we actually visit those places, we look around us, to fix upon some spot where we think the hero might have stood, we fight the battle o'er again: again we crown the conqueror!

Cicero's description of his walk to the academy is beautifully illustrative of our principles—

"We agreed, (says Cicero) that we should take our evening walk in the Academy, as at that time of the day, it was a place where there was no resort of company. Accordingly at the hour appointed we went to Piso's; we passed the time in conversing on

different matters, during our short way from the Double-gate, till we came to the Academy, that celebrated spot, which, as we wished, we found a perfect solitude. I know not (said Piso) whether it be a natural feeling, or an illusion of the imagination founded on habit; that we are more powerfully affected by the sight of those places, which have been much frequented by illustrious men; than when we either listen to the recital or read the detail of their great actions.—At this moment I feel strongly the emotion I speak of:---I see before me, the perfect form of Plato, who was wont to dispute in this very place; those gardens not only recal him to my memory, but present his very person to my senses; I fancy to myself that here stood Speusippus, there Xenocrates, and here on this bench sat his disciple Polemo. To me our Senate house seems peopled with the like visionary forms, for often when I enter it, the shades of Scipio, of Cato, and of Lelius, and in particular of my venerable grandfather, rise to my imagination; *In short, such are the effects of local situations, in recalling associated ideas to the mind, that it is not without reason, some Philosophers have founded on this principle, a species of Artificial memory.*"

From these and a thousand similar instances, that will readily present themselves to the mind of the reader, it appears rational to suppose, that a system true to these principles must be of considerable importance. Upon this plan we learn that Simonides, the Cean poet, the supposed inventor of the art proceeded, the account of which is described by Quinctilian. It is related that he was invited to a feast to celebrate the virtues of his host, one Scopas a Thessalian, but his poetic genius, soaring to the regions of the Gods, for matter to adorn his eulogium, where finding a more ample field for his imagination, he dilated too long on the merits of Castor and Pollux, to the mortification of his patron, who expected, that he alone, would have the glory of the day; he therefore refused to pay the stipulated price, and referred the son of rhyme to his patrons in the celestial spheres, for a moiety of the original sum; It appears that his piety was rewarded, for a messen-

ger shortly after called him from the festive board, supposed to be sent by these gods, for he was scarcely in safety, when the room fell, and crushed Scopas and his guests to death; who were so mutilated, that their friends could not recognise them; but Simonides recollecting the precise situation that each person had occupied at table, was thus enabled to identify their persons, and point them out to their friends for burial. This suggested to him the advantages derivable from locality and association; and gave him the hint which he afterwards digested into a system.—Mythological as this account is (to strip it of its supernatural agency) it does not appear improbable that to an accident of a similar kind, we may be indebted for the device.

The powers of imagination and association are also called to the mnemonicians aid; the pictures of the former are connected by the assistance of the latter, and are thus strongly retained by the memory.

The association of ideas in the natural order of the mind, we find the most powerful and efficacious means of reminiscence; wherever one object becomes linked with another, we more easily recollect it, than where it is apart or isolated.

It appears to be a part of our nature, to have recourse to association in the general course of things, and perhaps, if analysed it may be one of the causes of the diversity, we observe in men: The uncommon quickness of some, and the slowness of others, may proceed from their superior, or inferior talent of associating. This principle is as extensive, as ample, as our powers are capacious; it reaches every where; not an object of our senses, our feelings, or our thoughts, but is subservient to it; the objects of sight, are associated with each other—as are feeling, hearing, tasting, and smelling. From the pressure of a hand, the harmony or discordance of sounds, what various feelings arise? a peculiar pungency or sweetness of taste, an odoriferous or fetid exhalation in like manner; mental researches, metaphysical investigations, all derive assistance from it, 'tis the hand-maid of memory, great in its importance to man, as it is as active as versatile.

This powerful engine of the mind, if cultivated, must be of the greatest utility; it may be used in a thousand instances where this system cannot reach, though it is the very pivot on which it turns.

Some people apprehend that the memory may be burdened by a multitude of images and impressions—does not the extensive knowledge of the Scholar refute the supposition? does he feel oppressed by the vast store of learning he possesses? does he not rather feel his powers expand, his capacity increase in proportion to his acquirements? do we not frequently, when we are desirous of remembering a particular place, look around for some object or objects sufficiently marked to assist our memory? Here instead of one impression, we conjure up two or three, and this we do without our memory being in the slightest degree oppressed; but on the contrary, our recollection materially aided by them.

The associations we form with objects of sense, we find less fugitive than those of a merely mental nature; therefore it must be evident, that where the latter can be interwoven with the former. our chance of retaining them is greater—Dugald Stewart, with his usual felicity of thought and expression, observes that "The influence of perceptible objects in awakening associated thoughts and associated feelings, seem to arise in a great measure from their permanent operation, as exciting or suggesting causes. When a train of thought takes its rise from an idea or conception, the first idea soon disappears, and a series of others succeed, which are gradually less and less related to that with which the train commenced; but in the case of perception, the exciting causes remain steadily before us, and all the thoughts and feelings which have any relation to it, crowd into the mind in rapid succession, through each others effects, and all conspiring in the same general impression."

For this purpose symbols are introduced, as *permanent exciting causes*, which a little practice, will render as familiar to us as any objects in nature; these must be placed in the established localities, to be employed in the various subjects we desire. By

using them in the manner detailed in the work, we gain the assistance of one of the essentials to recollection---Attention; Whilst our eyes become fixed to a particular spot, the faculties of the mind accompanying them, become concentrated to a focus, which materially assists our memory. Without attention, we can never recollect; the means therefore, that conduce to it, must be desirable.

Great as the advantages are that may be derived from this system, let not the student deceive himself by expectations, which cannot be realised. He must frequently repeat his subjects to fix them in his memory; but the advantages he derives are, that he can retain them more permanently, as well as acquire them more quickly, than by the general mode we adopt; and also have his subjects more disposeable.

Stewart further observes in one of his admirable essays: "that the qualities of a good memory are---to be susceptible; to be retentive; to be ready."——Much as we require from nature to produce this happy union, we may derive considerable assistance from system to effect it. Susceptibility and retention, are aided by the frequent exercise of the proper faculties necessary to them. We cannot succeed in being *ready*, unless we have properly arranged the subjects of our study.——These, the system of mnemonics is calculated to produce.

Erroneous opinions are formed of the application of this art; it is generally called the system of *Artificial memory*, which implies an opposition to *Natural memory*, but a very little consideration, must point out the impropriety of the term; it would be perhaps better expressed, by saying *Artificial helps to the Natural memory*, for nothing can be impressed on the mind, without the exercise of memory, which this system so far from dispensing with, calls into most active use; and only requires the assistance of those principles, that have their foundation in nature.

If we wished to recollect the period when the laws of *Draco* were promulged, and said that their VENOM defeated their object, as a people could not long endure them.That *Moses* must have TRIPT quickly across the Red Sea to escape the hosts of Pharaoh.

That the followers of *Columbus* instead of imitating their leader, seemed only anxious to TREPAN the unfortunate inhabitants they discovered. And that the words VENOM, TRIPT, and TREPAN had the letters which were employed to represent the figures 623 B.C. 1491 B.C. and 1492 A.D. the proper dates when those transactions occurred. Would not the remembrance of these be truly an exercise of memory?—but receiving such desirable assistance from association and arrangement.

That the recollection of these or similar dates, together with other subjects, that are by many deemed essential to impress on the memory, may be disapproved of by others, is a different consideration. The author is free to admit, that too much importance is attached to the remembrance of several things by some, as they may be esteemed too lightly by others.—Some people seem to act, as if the whole principles of knowledge, consisted in being able to repeat the sentiments or opinions of others; or the specific rules laid down, whether in the languages or sciences; and therefore deplore the badness of their memories, in being unable to retain them; but if they took one-tenth of the pains in attending to general principles, which they employ in committing to memory, not only would their knowledge be more extensive, but their minds more active and efficient for all the various purposes of our nature. The exercise of reason, the various analogies that may be traced by a little investigation, will be found more effectual in obtaining knowledge, than the exercise of the best memory that man ever possessed. With these this system does not clash, it is only presented as a help to those subjects where philosophical principles cannot guide—where science has not given general laws to determine with facility the subjects of our cogitation or application; and where a ready recollection is essential:—this may be observed in one of our earliest studies, the multiplication table; a child or an adult may be easily taught the principles of it, that it is, in fact, nothing but addition in another form: but for use, this would be of little service. It is necessary in applying it, that the arithmetician should have no pause, no calculation to effect, but at once give the correct an-

swer; or business would be considerably retarded.---The same in a variety of other tables. No system can be devised so effectual for Chronology, as the exercise of memory. Geography and Astronomy in detail, in the same manner, require the exercise of the same faculty. To these or similar studies that require the actual exercise of memory, any plan calculated to assist, must be desirable.

But mnemonics are not limited to mere systematic tables: history, poetry, prose, grammar, oratory, botany, or similar pursuits where even design and plan can be admitted, will derive occasional aids from them. However admirable the orator's arrangements may be, he requires occasional resting places for the mind in his developement; this can be done by the mnemonic arrangement, without interfering with the general harmony of his design. The same in the other branches that have been enumerated.

One considerable advantage arising from the application of this system is, the habit of adhering to method,which we acquire by the practice of it.——This pursued in one branch of study, will indubitably operate and influence our conduct in others.

The powers of association called into action, will materially serve us, in accustoming our minds, to combination, and analogy; and although we frequently use grotesque or ludicrous assimilations in subjects, where no chastity of style is required; yet they are not so decidedly essential to the system, but others more congenial to the feelings may be substituted.

We shall conclude this introduction with the remarks of a great genius, upon the possibility of means being devised to facilitate the acquisition of knowledge. Condorcet, speaking of the improvement of the mind, refers to geometry, which in India and Egypt was an occult science, now so well known.---All the discoveries of Newton, learned in two years by a boy. At each epoch genius outstrips the present age; and is overtaken by mediocrity in the next. Nature has furnished us with the means of abridging our intellectual labours; and there is no reason for supposing such simplifications will ever have an end.

ADDRESS

TO THE STUDENTS OF THIS SYSTEM.

Although Mnemonics has the authority of venerable antiquity, and the sanction of distinguished scholars to recommend them, yet the revival of the system is so recent, that it may be truly said to be but in its infancy.—This treatise therefore should be viewed with similar feelings to those that are excited, in witnessing the first efforts of a child, to walk or to speak.

The indulgence of the reader is requested in the preface—the assistance of the students in this address. The author, anxious to render this system still more useful and worthy of public support, requests the aid of those who apply it. Their adaptation of it to science, or to any branch of education—their associations; comments; improvements,&c. if sent to him will be gratefully received.

Notwithstanding his care in the selection of dates, errors may have been overlooked, which, if known to him in time, can be noticed in the second volume.

The chronological dates are from Blair, with the exception of those attached to the Lord Lieutenants of Ireland, the greater part of which are from Trusler, from whom the author has also taken the genealogy of the Scottish monarchs, but their dates are from Blair.

The second volume of Mnemonics is in forwardness, andwill be soon published: the whole system is intended to be comprised in three volumes; but the reader will soon perceive, that the present volume requires no future part to elucidate any of the subjects to which it is applied.

In the succeeding volumes, he intends to introduce the following subjects:

General Geography—The adaptation of the Mnemonical arrangement to it fully explained, and associations given for all the places of consequence on the Globe, in degrees of Longitude and Latitude; with a large map laid down upon the plan of the rooms.

Particular Geography—with assimilations for every town in England, arranged in its respective County—the Longitudes and Latitudes, in degrees and minutes of the county towns associated; also the population of each county, and the distances in miles, from the metropolis, of the principal towns in the kingdom—with a map of England, suitably divided.

Astronomy—an easy mode presented of remembering the precise situation of the various stars, in degrees of right ascension and north declination;—diameters and distances of Planets, &c.

The Statistics of the various nations given; their population, revenue, products, commerce, government, military and naval power, number of square miles, &c. associated.

General History synchronized—its principal facts and dates assimilated.

Daily Occurrences—Combinations presented for months and days.

Multiplication—the mode of multiplying eight or ten figures in the mind, by a similar number, by the aid of symbols, without paper or slate.

Poetry, Prose, Sciences, Languages, &c. &c.

And the Mnemonical Dictionary, continued to No. 1000.

Letters addressed to the Author, at Messrs. Cradock and Joy's, will be forwarded to him.

MNEMONICS.

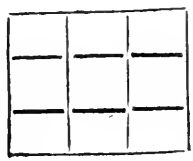
CHAPTER I.

AS the object of the author of this work is to convey a clear, ample, and complete knowledge of the system of Mnemonics; to be understood by the humblest capacity; he is apprehensive that by some people his explanations will be considered, in many instances, unnecessarily diffuse; but although disposed to give general satisfaction, he would rather incur the reproach of being tedious, than be censured for failing in communicating the system, by rendering it too concise: he fully estimates the importance of brevity, but too much may be sacrificed to it. His experience in lecturing has taught him to adopt the plan he intends to pursue—convinced that if his readers be like the majority of those whom he instructed in the art, that they will not be displeased with his resolution. At the same time, that he deems it necessary to state the manner he proposes to treat his subject, he must also declare that he will endeavour to avoid all useless repetition and irrelevant matter.

The general outline of the plan having been glanced at in the introduction, prepares the mind for the developement of the primary part of the system, which is essential to be well understood by learners, before they attempt to apply it in their studies. They are therefore requested to proceed gradually, step by step, or nothing but confusion will ensue; for although the system is sufficiently simple and comprehensible, it requires an adherence to the whole of the minutiæ to profit by it effectually—indeed its very simplicity may be injurious to it, by causing the ardent student to pass on too rapidly, to reap, prematurely, the harvest he is desirous to obtain.

As it has been observed that places and symbols form the prominent features of the Mnemonic art, the former being the depositories of the latter, must be first noticed; it being desirable that both of these should be either actually or mentally present to the Mnemonician's view. A room properly arranged, appears the most eligible to effect the purpose, because students are generally seated in an apartment when they study; if not so situated, a little exercise of a faculty, which the system calls into action, will ideally present the several parts of their chamber before them.

As the floor, walls, and ceiling are to be regularly divided into a certain number of parts, learners must commence with the floor, and proceed in the regular order of the figures.



This diagram exhibits the imaginary division of the floor

into nine parts, which they must always number according to the following plan: placing their backs against the centre of any of the walls they chuse to select, the most remote part of the floor to their left hand, they must call number one; and proceeding from their left hand to their right, in the order of their division; they will then have numbers one, two, and three in the first stripe; in the second; they will have four, five, and six; and in the third stripe, seven, eight, and nine, as this exhibits:

1	2	3
4	5	6
7	8	9

The familiar example of writing a letter, will fix the scale of division, by always proceeding in like manner, from the left hand to the right. When the floor is arranged, they must make a similar disposition of the walls, first establishing the order or numbers of them, beginning with the one which is to their left hand, and proceeding from left to right with them; they will thus have the second wall before them, the third at their right hand, and the fourth behind them. Then removing from their first position, and placing themselves in the centre of the floor, directly facing the first wall, they must divide it exactly on the plan of their floor, into nine parts, from left to right; the second, third, and fourth walls are to be arranged in the same manner, observing that they place themselves opposite each wall that they divide:—this last direction the author should not have considered necessary, were it not, that a gentleman in applying the system, conceiving that he ought not to stir from his first position, very ruefully told him, that he should be obliged to abandon the art, as he could

not by any possibility divide the wall that was behind him, unless he were allowed to turn round to look at it.

By this division there will be forty-five places—but, as the entire number in a room must be fifty; to make the respective numbers on the floor and walls harmonize, we call in the aid of a portion of the cieling to effect it. The students are therefore to suppose a compartment on it, corresponding in size with any of those they have already arranged on the walls, directly conjoined to the second place of their first wall; similar compartments must be imagined as appendages to the second, third, and fourth walls, always in a line with the area or space of the second part on each wall:—these compartments are to be the receptacles for the decimals or tens. They must then proceed to number the whole, following the regular order of the figures on the floor; the last division of which is number 9: they must call the compartment of the ceiling that belongs to the first wall, number 10, and then descending to the wall, the first place on it, is number 11, the second, number 12, and so on to 19, the terminating number: the place on the ceiling part, that is appended to the second wall, is for number 20, and the wall numbered in the same manner as the first, down to 29. The ceiling part of the third wall has 30 for its number, the wall having the figures to 39. The ceiling part of the fourth wall, has 40 on it, and the wall, the remaining figures to 49, then let the centre of the ceiling be for number 50.

Floor.

1	2	3
4	5	6
7	8	9

Ceiling.

	10	
11	12	13
14	15	16
17	18	19

First Wall.

Ceiling.

	20	
21	22	23
24	25	26
27	28	29

Second Wall.

Ceiling

	30	
31	32	33
34	35	36
37	38	39

Third Wall.

Centre of 50 *the Ceiling.*

40 *Ceiling.*

41	42	43
44	45	46
47	48	49

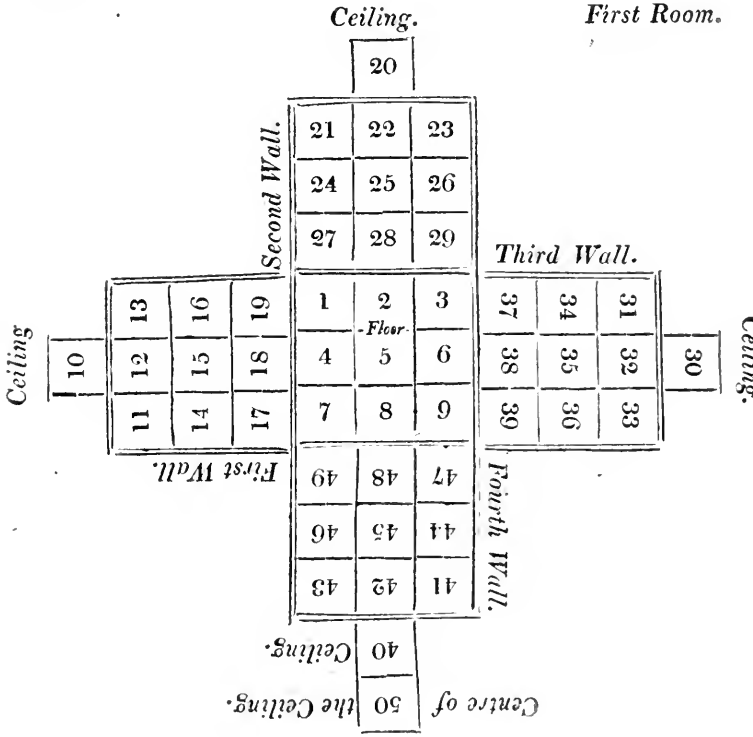
Fourth Wall.

The learners will perceive, that by this disposition of the compartments, they can have no difficulty in determining the situation of any figure in the series, as they are all numbered like the floor, from 1 to 9; for by observing the above diagrams, they will find that the *Ones* are all placed in the first parts of their respective walls or floor; as No. 1 commences the floor, No. 11 the first wall, No. 21 the second wall, Nos. 31 and 41 in the same situations, on the third and fourth walls: the figures 2, 12, 22, 32, and 42, occupy the second places, and thus with all the figures; the cyphers being always upon the ceiling, the fives are uniformly in the centre; by observing which, they can have no hesitation in directing their eye to any compartment that may be required, for it will be easy to impress on their minds, that the numbers after 5, must proceed regularly towards the bottom of the wall, as the numbers above 5, ascend towards the ceiling.

The learners are desired also to note, that the floor is the seat of the units; that they are therefore, sure to find any of the figures from 1 to 9 on it; that the *first* wall (including the ceiling part) commences with 10, and ends

with 19; that is to say, the preceding or left-hand figure throughout the first wall is 1; the *second* wall has the preceding figure *two*; from 20 to 29; the third and fourth walls have the same simplicity of arrangement.

The students ought *imaginarily* to divide their floor and walls, not to be satisfied with *reading* the manner in which they are to be done; and then they may exercise themselves in questions of the following nature. On what wall shall they find No. 25?—Here the answer is at once apparent, for the first or left hand figure, denotes the wall, and the second, or right hand figure, the compartment or place; thus the answer will be, that it is on the second wall, fifth place. Where is 49?—Fourth wall, ninth place. Where is 30?—On the ceiling part of the third wall, &c.



This last diagram presents a united view of the floor, the four walls, and the parts that are occupied belonging to the ceiling. It is evident that a shorter mode might be adopted than the one already given for the division of them; By merely observing the manner in which the lines are drawn:* For the two parallel lines that mark the first division of the floor might be continued up the wall on the right hand of the learners, in their first position, then across the ceiling, and down the wall to their left hand, meeting the points from whence they commenced; which would divide the floor, two of the walls, and the cieling, into three parts; then shifting their position, by leaning their backs against the wall that was to their right or to their left hand; and drawing two transverse parallel lines on the floor, and continuing them up the wall to their right hand across the ceiling, down the wall to their left, they likewise meet the parts they proceeded from. Thus, the floor and cieling will each be divided into nine parts, but the four walls, will as yet have but three divisions on each, produced by the two perpendicular lines that have been already formed; but as the number of places on the walls, must agree with those on the floor, they can effect them, by drawing two horizontal and parallel lines upon one wall, equi-distant from the ceiling and floor, which they must continue round the other three: the termination of the horizontal lines, on the fourth wall, meeting the beginnings of the first. By this mode of dividing, there will be fifty-four places, nine on each wall, floor, and ceiling: to reduce them to fifty, they have only to reject the corner parts of the ceiling, leaving five as before arranged.

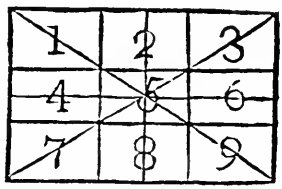
* The reader is cautioned not to confound the lines that are supposed to be drawn on the floor and walls, with those which in the diagram, mark their extremities; the single lines alone to be observed.

Ceiling.

	20	
10	50	30
	40	

The author in teaching this system occasionally uses both methods, but he prefers the former, being less liable to confuse; as only *one part* of a room is presented to the view at once.

After the general detail that has been given, it is scarcely requisite to offer any other helps to learn the positions of the respective compartments; but, as the most trivial matter may be sometimes useful, the following observations on the distribution of the figures may not be wholly unnecessary.

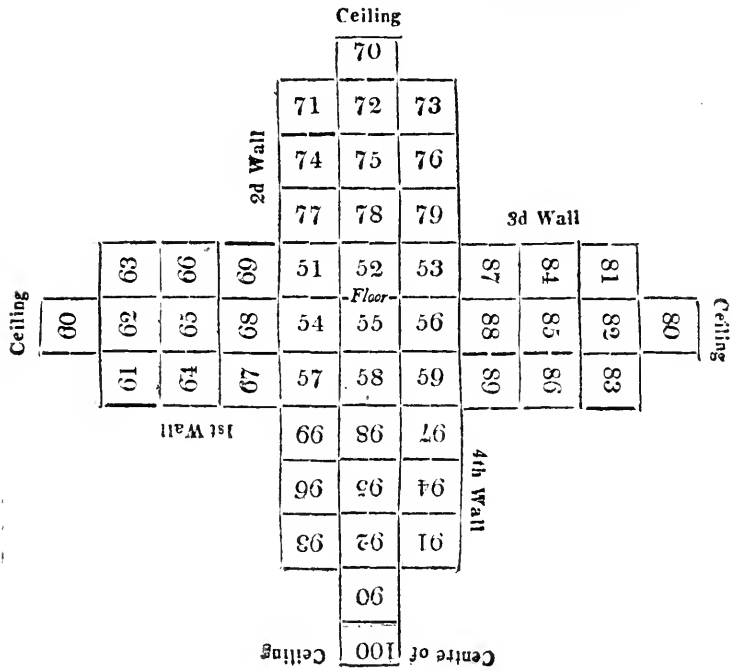


This diagram exhibits either a floor or a wall: the diagonal lines observe, always cross the uneven numbers, the vertical and horizontal lines (with the exception of the central 5), intersect the even numbers: thus, the figures 1, 3, 5, 7, 9, are angular—2, 4, 6, 8, the reverse.

The learners are supposed to be quite familiar with the plan of one room, they can now with ease proceed to the division of a second; as for various mnemonical purposes, one may not be sufficient for them. In the

second room they can experience no difficulty of arrangement, for their division must be exactly as the former, beginning with the floor, which like the first room must have nine places, each wall ten, including the compartment on the cieling, the walls numbered one, two, three, four, &c. from left to right.

Second Room.



The only difference between this room and the first, is, that we here commence with 51, and proceed to 100, which is placed on the cieling. And here a similar mode assists the learners, in ascertaining the situation of every figure; for recollecting, that they placed five tens or fifty,

in the first room; they will have simply to deduct that number, from any given number in the second; which immediately determines the wall and place. Thus, if asked, on what wall was number 65; by taking 50 from it, leaves 15, being the first wall, fifth place; it is unnecessary to add *second room* to it, as every number beyond fifty, and under one hundred, must be in the second.

Having perceived the principle that directs the subtraction of fifty, it will be easier to deduct FIVE from the left-hand figure of any number presented; thus number 73, by subtracting 5 from 7, leaves 2, being the *second* wall; the *three* of 73 being the *third* place—where is 90? Take 5 from 9 and 4 remains, the *fourth* wall, the cypher directs to the *ceiling* part. Where is 56—taking 5 from 5, nought remains; which evinces that it cannot be upon a wall, but upon the *floor*.

Lest any anxiety should arise in the minds of some persons, from the number of lines and figures that are required on the walls of the respective rooms; the author hopes he shall allay their apprehensions, when he informs them, that *imaginary* lines, answer all the purposes of *real* ones.

CHAP. II.

AS in the preceding chapter, the division of two rooms gave us one hundred compartments; we must shortly proceed to place a symbol, or hieroglyphick in each, to be employed as the medium of association, to assist the recollective faculties in the several subjects, to which they may be

applied; but as the selection of them depends upon a certain disposition of the arithmetical figures, as yet unexplained; we shall, for a short period, leave that branch of the subject, to develope this useful and interesting part of the mnemonic art.

There is scarcely a person in any situation in society, but must have experienced occasional difficulties in recollecting figures, whether dates, pounds, shillings, and pence, epochs, &c. &c. for truly admirable and important as they are, the immense variety of combinations that can be elicited from only *ten characters* (the nine units and the cypher) their universality and application to almost every branch of learning, abundantly testifying; yet, there is not in the whole range of our acquirements, a single subject so difficult to be remembered as they are; there is nothing in them that we can embody; they in themselves form no point of association that the mind can cling to; they are, as a writer happily observes, like grains of sand that have no coherence. To remedy this inconvenience, the truly ingenious Dr. Grey in his celebrated *Memoria Technica*, systematized an irregular and imperfect plan, that was practised by tradesmen long before his time, and also to a certain extent by the Greeks and Romans; which was, to use the letters of the alphabet as the signs of the figures; these letters formed into words, which were placed as terminals to the prominent parts of the subject to which they referred. In his elaborate and erudite work, he arranged a number of valuable and important tables, for the benefit of his pupils; but notwithstanding the superiority of his method, compared with the difficulties that before existed, yet there were comparatively few, who had the courage to commence a task that was apparently so Herculean: the study had nothing inviting in it, the path was

rugged—no flowers to allure—nothing to cheer but its utility. The defect lay in his adaptation of the letters, by having a consonant and a *vowel* attached to each figure; which circumscribed his choice of words, and caused that barbarism of sounds, which terrified the learner; although it is contended by many, that apparently or really difficult as the words may be, yet they are, for that very reason, more likely to be remembered; as they require great labour to impress them on the mind, which procures an indelible impression. But certainly this argument, if even true, cannot be admitted; for if so, the attention of the learned ought to be directed to make their various studies more difficult, instead of simplyfying them, as eventually they will be gainers by it. To push this mode of reasoning further, would be to limit, in a very considerable degree, the acquisitions we are desirous to possess.

The author admits that some minds have a singular faculty in retaining cramp and difficult words; but he cannot, for the honor of our nature, allow, generally speaking, that a word, to which we can affix no meaning, can be as easily remembered, as a correct or proper one; for he contends, that with half the pains that are employed in impressing the former, the latter may be as permanently fixed: the only inconvenience that can be apprehended from the *improved method* is, that the ease by which it may be acquired, tends to cause a laxity that would defeat its object; but this can be soon overcome by the intelligent student or teacher, feeling the necessity of more frequent repetitions, to fix his subjects in the mind.

As we have observed that the defect of Dr. Grey's system lay in using vowels, as well as consonants, to represent figures: we omit vowels, and merely use them

as the *cement* of words, the consonants alone being the characters that are to be attended to, by which means we can always have at our disposal, correct or grammatical words; the vowels, a, e, i, o, u, y, are therefore rejected.

This is the scale of figures and letters.

1	2	3	4	5	6	7	8	9	0
t	n	m	r	L	∂	c	b	p	s
q	h	g	z	j	v	k	w	f	x
Quit	Noah	Magi	Raze	Jail	Dove	Cook	Bozo	Puf	Sex

The learners will perceive, that they could, in a short time, fix in their minds, this table, without any other aid than the common exercise of memory; but as it is desirable that they should have them soon impressed, and completely at their disposal; we shall call in the aid of association to assist them, by a kind of fanciful connection between the letters and the figures; where a direct resemblance or analogy, cannot be traced, we may derive assistance from the grotesque, our powerful auxiliary.

The learners are required therefore, to direct their attention to the first five figures, and examine the upper row of consonants that are attached to each, leaving the second range until they have acquired the first. The letter *t* they will perceive has a considerable resemblance to the figure 1, if they remove the small line that crosses the upper part of it.

n has *two* down strokes in it; it will be easy therefore to remember, that the letter which has *two* down strokes in it, belongs to the figure *two*.

For a similar reason, *m* will be easily recollected as belonging to *three*.

r is attached to *four*. To remember it, observe that the last letter in the word *four* is *r*.

L belongs to 5, which can be impressed by recollecting that it is the Roman numeral for 50, which, by rejecting the cypher is a 5.

The students are desired to try if they can recollect those, by putting them down upon a slate, or paper; if they can, they may next attempt the second range of consonants, belonging to the same figures.

They will see that *q* is combined with *t* to represent 1, but as *q* has no resemblace in form to assist the mind, they may join it, with the *t*, into a word that they can make use of, to associate. The word QUIT will answer the purpose; and by remarking that *t* and *q* are the letters which *commence* the series, they can say, that as they are now going to *commence* this part of the study of Mnemonics, they are resolved not to QUIT the pursuit, but persevere until they perfect their knowledge of it. The vowels in the word QUIT (and in all the subsequent combinations) being rejected, leave *q* and *t*, the characters for 1.

n has *h* combined with it, to represent 2: they, with the aid of vowels, will make the word NOAH. To remember that the consonants in that word belong to the *second* figure, they can observe that the *second* great man we had upon earth was NOAH.

M and *g* combined, will make the word IMAGE; which they can assimilate as the supposed IMAGE of 3; or, by chusing another word, think of *three* of the MAGI.

x has some resemblance to *z*, let them make it and *z* into the word RAZE, and say that they are determined to RAZE every thing that opposes their progress, until they are perfect.

J and *l* will make the word JAIL. To remember which, they can remark that 5 being in the centre of the figures, having four on each side of it (not considering the

cypher as a figure) may be fairly said to be so environed, as to be in JAIL.*

They may now advance to 6, that has *d* for its first consonant, which being formed in this manner, ∂, is only a 6 reversed; but as *v* must be combined, it will make the word DOVE; and by noting that the upper part of the 6 or ∂, is like the wing of a bird, extended in flight, they can easily make it into the wing of a DOVE.

7 is formed like a gibbet, on which they might humourously threaten to place their COOK, if he should ever spoil their dinner.

8 being curvilinear, may be said to be bent like a Bow.

q is like a *p* reversed. An *f* may also be formed like a *p*. Further, they may observe, that if they extended the perpendicular line of *q*, a little longer, it will have some resemblance of a pipe; the line resembling the tube, and the upper part being like the bowl; in using a pipe we usually PUFF with it.

S and *x* belong to the cypher, it being round, resembles a grinding stone; which in motion, always gives a *hissing* noise, they may therefore easily recollect the *hissing* letters *s* and *x*. By introducing vowels, they will also make the word *sex*; and as they are the *last* in the series, they can easily observe that the *last*, or the greatest ambition of a gentleman should be to protect the fair SEX.

A very little practice will make these combinations perfectly familiar, and they will be found of the greatest importance in almost every department of knowledge.

This tabular arrangement of the figures and consonants is not an arbitrary one; nor are the consonants solely selected

* Jail was formerly, and is yet frequently spelled with a J, it cannot be confounded with G in Gaol, as it is already used in *Magi*.

(as a writer lately observed about Mr. Feinaigle's scheme) because a resemblance can be traced between them and the figures in form; their selection is the result of some experience of the powers of each, intended to be disposed in such a manner, that no junction of any two consonants (representing figures) should produce a greater number of correct words in the language, than any other two consonants, in all their various combinations; that 34, for example, should not have more words to represent it than 56, and thus with all the rest. But, although this has been the professed object of the author, yet, he is sorry to observe, he has not completely effected it, for some of the combinations are more prolific than others; but he thinks he has succeeded as well as the nature of the letters will admit, and the English language allow. He has attempted various other classifications, but none of them were so successful as the present.

He knows that some, which he could devise, might, at first view, appear more neat, but as *power* is superior to *neatness*, he abandoned them.—The principle that governed him was, to join the efficient with the inefficient letters of the alphabet; thus with T, which is found in a great many words, he combined Q, that may be easily seen is less common. With R and L, which are very powerful letters, he placed Z and J, that are not so.——Two letters of *middling* power he joined together, as N and H; M and G, &c. &c.—

The reader need not be told after this, that the assimilations he has given, were not to shew the reasons that influenced him in choosing the consonants, but merely to *assist* the *memory* in retaining them.

CHAP. III.

When the learners have studied the division of the two rooms, and the exercise of the figures and letters, they may proceed to the use of the symbols, which are 100 in number, *i. e.* a symbol for each place. The following is a list of their names.

First Room.

1 Ate—goddess of revenge.
2 Ino—wife of Athamas, king of Thebes, who in a fit of insanity killed Learchus, his son; Ino escaped the fury of her husband, and threw herself into the sea, with Melicerta (another child) in her arms.
3 Guy—earl of Warwick, encountering a cow.
4 Roe.
5 Leo—or Lion.
6 Ida—a mountain near Troy, or the one in Crete.
7 Oak.
8 Obi—the Spirit of the West Indies; also a Charm.—Three-fingered Jack is introduced, with an old witch.
9 Ape.

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10 Atys—a son of Crœsus, king of Lydia.—He was born dumb, but recovered his speech from a fright, in seeing his father attacked by a soldier at the storming of Sardis.
11 Equity—represented like Justice, but her eyes are uncovered.
12 Autonoe—daughter of Cadmus, and mother of Actæon; whose transformation by Diana caused her death.

13 Time.
14 Equery.
15 Atyla—a valiant Scythian.
16 Tuova—a chief of the Marquesas Islands.
17 Teuca—an old Egyptian lady.
18 Toby—Philpot
19 Tupia—chief priest of the island of Otaheite.

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20 Æneas—a Trojan prince.
21 Natio—goddess of nativities.
22 Noah.
23 Hygeia—goddess of health, daughter of Esculapius.
24 Hero—celebrated for her love of Leander.
25 Hyale—one of Diana's nymphs.
26 Naiad—an inferior Deity, presides over rivers, and fountains.
27 Inca—monarch of Peru.
28 Hebe—goddess of youth, and cup-bearer to the gods.
29 Hope.

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30 Egeus—king of Athens, father of Theseus. He threw himself into the sea (since called the Egean Sea).
31 Muta—the goddess of silence.
32 Egeon—a giant, (same as Briareus) who made war against the Gods.
33 Gama—(Vasquez de) a celebrated Portugueze navigator.
34 Maria—(Sterne's)
35 Milo—A famous wrestler of Crotona.
36 Medea—A celebrated enchantress, who assisted Jason to possess the golden fleece.
37 Egica—A king of Spain, who slew Fasilia, that he might obtain his wife.
38 Mab—queen of the fairies.

39 Gopiæ—in the Indian Mythology, the same as the muses.

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40 Iris—messenger of the gods; the Rainbow.
41 Erato—the muse of lyric poetry.
42 Urania—the muse of astronomy.
43 Argo—the ship that carried Jason to Colchis.
44 Zara—captive queen in the Mourning Bride.
45 Ariel—in the play of the Tempest.
46 Zaida—in the Moorish tale of Alcanzor and Zaida.
47 Yarico—in the story of Incle and Yarico.
48 Arab—mounted.
49 Europa—Daughter of Agenor, king of Phœnicia, carried away by Jupiter in the shape of a bull.
50 Æolus—God of Winds.

Second Room.

51 Lot—pillar of salt.
52 Juno—queen of heaven.
53 Lama—a high priest of the Chinese Tartars.
54 Lear—King.
55 Jael—who killed Sisera.
56 Jove—king of gods.
57 Lyco—a peripatetic Philosopher.
58 Juba—king of Mauritania.
59 Alope—daughter of Cercyon, king of Eleusis, changed by Neptune into a fountain.

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60 Idœus—who fled from the field of battle when his Brother was killed in the Trojan war by Tydides.
61 Adyte—one of the Danaides, for the murder of her husband, condemned to fill with water a vessel full of holes.
62 Diana—goddess of hunting and chastity.

63 Adam.
64 Dairo—a hero, "of the happy deeds," in the poems of Ossian.
65 Edile—a Roman magistrate to superintend buildings and markets.
66 Ovid—the poet.
67 Educa—goddess of new-born infants.
68 Adeba—a merchant of Egypt.
69 Deiopeia—a Nereid, or sea deity.

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70 Eacus—king of the island of Œnopia.
71 Cato—a noble Roman.
72 Cain.
73 Cymo—a sea nymph.
74 Cora—a Peruvian lady—in Pizarro.
75 Clio—muse of history.
76 Cadi—an Eastern magistrate.
77 Cooke—Captain
78 Keowa—son of the king of Owhyee, where Capt. Cook was killed.
79 Copia—goddess of plenty.

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80 Ibis—the Egyptian stork.
81 Buteo—a Roman consul.
82 Aboan—a captive in Oroonoko.
83 Bagoe—a nymph who instructed the Tuscans to divine by thunder.
84 Oberea—queen of Owhyee.
85 Abel.
86 Beda—in Blue Beard.
87 Bacai—a learned Mussulman.
88 Woba—a Turcoman, (a native of Turcomania)
89 Ibif—a Circassian nobleman.

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90 Apis—an Egyptian god, worshipped under the form of an ox.
91 Poet.
92 Pan—god of shepherds, &c.
93 Fame.
94 Fury.
95 Paoli—a Corsican general.
96 Fido—an Argive, who invented weights and measures.
97 Peace—the goddess.
98 Fabia—a vestal, sister of Terentia, Cicero's wife.
99 A Fop.

100 Esau.

One cause of the selection of these symbols, by the author, in preference to others, may be very soon observed; for the consonant, or consonants, that are in each name, represent the *figure*, or the number of the *place* to which they are to be attached; thus *Ate* is the *first* symbol, the only consonant in her name is *t*, which is a character for 1. —*Ino* is the second symbol, the consonant *n* being the character for 2—and thus with *Guy*, the *Roe*, *Leo*, *Ida*, *Oak*, *Obi*, and *Ape*.

The symbol for 10, must have two consonants, one for each figure.—*Atys* represents it. *Equity* represents 11, *Autonœ* 12, and thus throughout the whole series.

The superior advantages arising from this arrangement, will be felt only by those who have applied other symbols, and are also familiar with the consonants that are the signs of the figures.

But independently of the assistance that this classification affords in retaining them, the learners must not confine themselves to simple repetition, they must *localise* each symbol in its proper compartment, that is, they must transfer

the image or figure of each, to the place intended for it; thus *Ate* must be supposed in the first place, on the floor; *Ino* in the second, *Guy* in the third, &c.—To effect this desirable knowledge of the symbols, without which they can receive very little advantage from the art, their fancy or imagination must be called into action: A grotesque assimilation will be often very powerful; circumstances arising from situation, furniture, pictures, &c. are of great importance: thus, if a cane, or any weapon should be in the corner of the room, where *Ate* is to be placed, they can observe that it is dangerous for it to be there, lest *Ate, the goddess of revenge* should attack them with it.

If the fire-place should be near where *Ino* ought to be; as she is observed to be jumping into the sea, they might remark, that as they are deprived of seeing the sea; they suppose the fire must have dried it up.

Where *Guy* is encountering the cow, they may apprehend danger to the furniture.

The *Roe* may be supposed bounding over a chair.

Leo is placed in the centre, to keep their enemies in awe; or any association of a similar nature, that they may deem best calculated to attain their object; but above all things they must observe, that not only in *localizing* the symbols, but in every other association they make with them, that they constantly attend to this important rule—*—To gaze intently upon the place*—first looking at the hieroglyphick attentively, to renew their knowledge of its form, and then fancying it in its proper place, and endeavouring to make some ideal picture of the subject that they intend to recollect, interwoven with their symbol; this mode may appear to cost them some little trouble at first, but they will be amply repaid, by the advantages they derive in their recollection.

The power of making those kinds of mental pictures, may be supposed difficult, but a very little practice, and entering with spirit into the arrangement, will render each effort easier than the former. This faculty of the mind like every other, may be cultivated and improved, to become of the greatest importance to us.

The author is aware, that objections to his symbols may be started by some, on account of the supposed difficulty of remembering the *hard* names of several of them, particularly in their application by children; but, in all such cases, the symbols may be described without reference to the names: thus, instead of saying *Ate*, to a child, it might be taught, that the first symbol was a *Woman, with a dagger in her hand*, which would be as easy to recollect, as any symbol that could be devised.—Instead of saying that their second hieroglyphic was *Ino*; simply call it, *a Woman, with a child in her arms*, and shewing the picture, will be found effectual.—*Atys* may be termed a *Dumb prince —Equity*, a *woman with a pair of scales, &c. &c.* and occasionally mentioning the names, they will become familiar; when there will be this advantage attending them, that children will thus early acquire a knowledge of a number of personages, that, as scholars, will be essential to be known by them; for with the curiosity generally attendant upon youth, they will be anxious to learn who these characters were; in their search of information, they will acquire more, and thus be doubly benefitted.

It had been observed to him by many persons, who afterwards acknowledged their error, that objects, or symbols more common, would be better; thus the 16th symbol might be a *Toad*, instead of *Tuova*; but, independently of the inferiority of the former, as a medium of association, the word might be wanted for some purpose connected

with figures, when it would be extremely awkward and confusing to have the word *Toad*, as the mnemonical word for 16, perhaps, assimilated with the very next symbol to the one of the same name; considerations of a similar nature directed his choice in all—to avoid those names that might be wanted for common use—whether as words for degrees of longitude and latitude, or any other purpose.

Another arrangement he has effected, which may be found useful; wherever two figures of the same kind are combined, the symbols that belong to them, have the *two* consonants in their names, that are employed to represent them individually; thus the 11th symbol being formed of two *ones*, has the consonants, *q* and *t*, in the word *Equity*.—The 22nd symbol has the letters *n* and *h*, in the word *Noah*, the same with 33, 44, 55, 66, 77, 88, and 99, in the names *Gama*, *Zara*, *Jael*, *Ovid*, *Cooke*, *Woba*, and *Fop*. For some of them he could have chosen more familiar names, thus *Aurora* and *Dido* might be used instead of *Zara* and *Ovid*; as they would equally represent 44 and 66, but then the abovementioned object would be frustrated; for, by this modification, if the original combination of the consonants and figures were lost, they are sure to be found in the symbols, *Equity*, *Noah*, &c. &c.

A variety of other motives that would be idle to detail, influenced his choice; thus *Numa*, and *Nero*, would be easier recollected as symbols, than *Hygeia* and *Hero*; but as they were *monarchs*, whose order of succession to be remembered, will cause them to be associated with the *symbols*, it would appear singular and objectionable, to have them at the same time, media of association, and objects of recollection, with other symbols. *Niobe* would appear a more appropriate emblem for 28 than *Hebe*, as *n* may be supposed to be easier recollected than *h* for 2; but *Niobe* would be less useful, for she could not be easily supposed in any

other situation than transfixed with grief for the fate of her children, whereas *Hebe* can be placed in a thousand situations for which the former would be unfit.

The Author ought to apologize for delaying the course of his subjects, by observations that may appear unnecessary, but as he knows the *improving* spirit of the ingenious may urge them to alterations to benefit the system, which he is as anxious to see as any other person; he wishes to remove every obstacle to an object so desirable, by pointing out the motives that directed him, that *they* may not mistake change for improvement, by adopting arrangements that may appear *simple*, without being *powerful*.

He cannot, however, dismiss this part of the subject, without observing, that as it is decidedly essential for mnemonicians to be able to describe the symbols, and refer to them without any pause or delay; he knows no arrangement so well calculated to effect it, as the one he has chosen—to have the symbols at the same time *numerals*—for they can always recollect, or they ought to recollect, the consonants that belong to the figures, which at once presents to their mind any symbol they require: thus if they were asked the name of their thirty-fifth symbol, they know that it will be found ideally depicted on their third wall, fifth place; where, if they took any pains to imagine it, they are sure to find it: but in default of this, if it were a mere arbitrary picture, they might be at a loss: But, by the present arrangement, they may or may not refer to their wall, and with a rapidity of mind, far outstripping that mode, they resolve the figures 3 and 5 into *m* and *l*, which directly presents *Milo* to their view; and in like manner with every other.

Before the students attempt to apply the arrangements of the next chapter, they ought to be tolerably well acquainted with at least ten of the symbols, but a greater number would be desirable.

CHAP. IV.

AS it may be frequently necessary to commit to memory a series of figures, we shall now explain the mnemonical mode to facilitate this purpose. Various methods may be adopted, but we shall commence with the simplest, and for most purposes of a similar nature, perhaps the best.

6 5 9 2 4 9 7 6 4 8 1 5 2 6 0 1 8 2

Here are eighteen figures, that to many persons would require no common application to remember them; and after all their efforts, they would be very easily forgotten; but by using the mnemonical mode, the students can, not only recollect them in a much shorter time than the common method, (for by a little practice, a person could commit them to memory in less than a minute) but gain the more important point of permanently fixing them—their first step towards effecting this, is to divide the figures into pairs, and make them into words, but as the words so made, require to be recollected, they must *associate* them with the symbols, and proceed regularly on from the first, to as many as they require.

Agreeably to this direction, let them take 65, which they must make into a word; the figure 6 they know has the letters D and V to represent it, as 5 has L and J; by placing a vowel or vowels, between, before, or after a consonant that belongs to 6, and a consonant that belongs to 5, they have a great number of words at their disposal: they have DEAL, DELAY, DIAL, IDLE, VEIL, VEAL, VILE, &c. &c. but as their object should be to make choice of a word that may have some relation, or affinity to the symbol, that they

use as the repository for their word—the last, word VILE, will be found as appropriate as any other. They can therefore (looking at their symbol and place), say that *Ate*, the *goddess of revenge* must be indeed VILE to indulge in the malignant passion of revenge.—By being emphatic on the word VILE they can easily mark it.

92 will make the word PAIN, it may be said that *Ino* must be in great PAIN of mind to come to the resolution of destroying herself.

49 will make ROPE—Aye, *Guy* having conquered the *Cow* is going to tie a ROPE round her, to keep her from doing further mischief.

76 will make CAVE, into which the *Roe* is going for shelter.

48 ROB. We must beware of *Leo*, or he will ROB us of life.

15 QUAIL.—On *Mount Ida* there is a QUAIL flying about for food.

26 NAVY.—The *Oak* will, in all probability, be cut down for the British NAVY.

01 SOOT.—*Obi*, or *Three-fingered Jack*'s face is as black as SOOT.

82 BONE.—The *Ape* is picking a BONE.

These associations being repeated a few times will be sufficiently impressed, for any purpose that may be required. To reduce the words to figures again, the operation is the reverse of the former.

1 2 Vile	3 4 Pain	5 6 Rope
7 8 Cave	9 10 Rob	11 12 Quail
13 14 Navy	15 16 Soot	17 18 Bone

Thus the above nine words become again the same figures that we exemplified, VILE is 65, PAIN is 92, &c.

If a person had to speak upon any subject which required a certain enumeration of figures, whether in mercantile accounts, finance, revenue, &c. he would find considerable assistance from forming them into words or sentences, and assimilating them with his symbols, as the above examples will shew—for, let him try the effects of them by transposing the words into figures; and suppose that he is addressing an assembly, and detailing the several arithmetical parts of his discourse, instead of referring to notes, which he should be compelled to do without such aids as the above: He has only to think of his symbols in the regular order, which will not fail presenting to his mind, the associations made with them: thus, he might say, the *first* item in his account is £65; for refering to *Ate*, the word VILE will directly occur, which a very little practice quickly resolves into the proper figures 65. The *second* item is £92—for refering to *Ino*, as his second symbol, the word PAIN will be recollected. The *third* account is £49, the ROPE of *Guy* furnishing it, &c. &c.

When he has completed his general statement, it may be sometimes necessary to direct the attention of the assembly to some one part more particularly than the rest, say the fifth, he has simply to think of his *fifth* symbol, *Leo*, which reminds him of the associated word ROB, giving 48. He may wish to contrast the *fifth* with the *ninth*, the BONE of the *Ape* instantly presents the figures 82.

If he have more figures to recollect, let him continue making them into words, and associating them with the symbols on his first, second, third, and fourth walls—if one room be not sufficient, he has fifty symbols in another

room disengaged, which he may apply—if they are not sufficient, he could use his symbols over again in *other apartments.*

Useful as the above arrangement certainly is; its ingenuity may be further exemplified, by recollecting the precise position of every figure in the series: thus if asked to name the twelfth figure, the mnemonic students could, directly answer it was 5, and so with all the figures, if they had 200 or more of them. Although a very little practice would discover this, yet it may not be amiss if some trivial assistance were furnished on the present occasion.

By observing the diagram, page 43, in which are the mnemonical words, employed for recollecting the figures; the students will perceive that they are numbered 1, 2, 3, 4, &c. to 18; that the *uneven* numbers of the series uniformly commence each word, as No. 1, is the first consonant in the first compartment, No. 3 is the first in the second, No. 5, the first in the third, &c.—the 7th, 9th, 11th, 13th, 15th, and 17th, being likewise *uneven* numbers, are the commencing consonants in their respective squares. The *even* numbers of the series are, with the same certainty, the last consonants in each compartment, 2, 4, 6, 8, 10, 12, 14, 16, 18 are all found in their proper squares, as the last consonants; by noting this, they know where to look for any particular number they may want: and by also remarking that they have placed only two figures in each compartment, they can divide any given number by 2, which determines the compartment such figure is in. Thus, if asked, the 10th figure of their series of figures, page 42, they must in their mind divide 10 by 2, leaving the quotient 5, the *fifth word*; then apply to the fifth symbol for it, when *Leo* directly presents the word Rob;—now as 10 is an

even number, they must only direct their attention to the letter B in Rob, which they readily convert into 8, the tenth figure of the series. Knowing the principle that influenced them in dividing by 2, they can omit that mode, and adopt a quicker method, by taking at once the half of any *even* number, that may be required—thus the half of 10 is readier than dividing by 2.

Which is the 14th figure of the series?—The half of 14 is 7, the seventh symbol furnishes the word Navy—14 being an *even* number they refer to V. which is 6, the 14th number.

When an *uneven* number is required; instead of first dividing by 2; they may add 1 to it to make it *even*, and then proceed as before. Thus the 11th figure is asked.—add 1 to it, which makes 12, the half of 12 is 6.—The sixth word is sought for on *Mount Ida* (the 6th symbol) we there find a Quail, but as the 11th number is *odd*, we refer to the *first* consonant, which is Q, the sign for the figure 1, the 11th figure—see page 42.

If they have several series of figures to commit to memory, and that they are apprehensive they may confuse each other, a story connecting each distinct series might be devised, which would prevent it; thus in the same series, by changing some of the words (that nevertheless are the proper signs of the same figures) they may form a story like the following.

Ate has a Veil on her, which she put on, that she might not be discovered in her design to stick a Pin in the head of *Ino*; she afterwards struck *Guy* with a Rope, who jumped upon the back of the *Roe*, and fled into a Cave for shelter, but there he saw *Leo* picking the Rib of a Quail, that he caught on *Mount Ida*, being perched on an *Oak*, where

it went to HIDE itself from *Three-fingered Jack*, who SAT with an *Ape* upon an EBON chair, endeavouring to snare it. This grotesque story repeated a few times will keep that order of figures distinct from any other.

This mode of making a word of two figures will be found the readiest for general purposes, where a long series of figures that follow consecutively are necessary to be committed to memory; but mnemonicians may sometimes find it useful to make a word of three figures or four, or as many as they find convenient; this example will shew how they may proceed in arranging three figures, The same series of figures, page 42, will exemplify.

659 will make the word VILIFY, to recollect it, use *Ate*, who from her malicious disposition is very prone to VILIFY people.

249 makes HARP, on which *Ino* was playing, before she came to the resolution of destroying herself.

764 CIDER—which *Guy* drank after his furious encounter.

815 BEETLE—that was perched on the head of the *Roe*.

260 HIDEOUS.—*Leo* roars in a very HIDEOUS manner.

182 TOWN.—*Mount Ida* may yet become a TOWN, or *Paris* exposed to the Sun must be very TAWNY.

In the act of committing figures to memory by the aid of words, associated with symbols, each student will of course follow his own peculiar mode; but the method which the writer of this adopts on such occasions, is, to commit three words to memory first, then three more, and repeat the six; afterwards three more, and repeat the nine, and so on. This plan may appear more tedious than necessary, but he is satisfied, that with him at least, it is the quickest, as it is certainly the surest mode.

Proper names of men or women may, by a little ingenuity be recollected, by associating them with the symbols. An officer could soon commit to memory the names of all his men; a number of words of a detached nature could also be assimilated.

It may be serviceable to give a few examples, to shew the manner of applying the system to pounds, shillings, and pence—as,

£32,695..9..3.

The word or words for the pounds, must be distinct from the word for shillings, as such word must be seperate from the pence. The consonants representing the above figures, stand as follow—M N D F L=F=M. These, by introducing vowels, can be easily made into a correct sentence, as, MINDFUL=OF=ME; and enumerating them in the order of pence, shillings, and pounds, the last word will be pence—the word immediately preceding it, will be shillings—and the word or words before them must be pounds. We may not always find it easy to make one word of the pounds, in which case we can make two or three if we please, but the fewer the better. The above figures, might be very differently worded; it would be equally correct to say—GAIN A DEFILE=OF=ME, or—MIND FOOL=A FOE=I AM, or—I MEAN A DEEP LIE=IF=I GO. The last would be, in many instances, objectionable; for it is desirable, if it can be done easily, that when the pounds make more than one word, the last be not a word that has but one consonant in it, lest it should be in some sentences, confounded with the shillings, as in the following example—£9216..1..0. In the absence of pence there is no occasion for a word to characterize the cypher: we require words only for the pounds and shillings. The above figures will make a good combination, by saying

PAINTED=IT, or POINTED=IT. When we cannot make one word of the pounds, we may perhaps divide them after this manner—A FEINT IDEA=TOO, or I FAIN OUTDO=IT; but although these two examples correctly express £9216..1..0, yet some difficulty may arise in discriminating the pounds and shillings, as a person might forget where the marks were between them; for the former of these sentences, A FEINT IDEA=TOO, might be divided wrong, and be translated as £921..6..1, by forgetting that IDEA belonged to the pounds: and the other example, I FAIN OUTDO=IT, might be called £92..16..1.

But such mistakes can be guarded against, by making the word which precedes the shillings, with so many consonants, that it cannot mislead; as in this example with the same figures—A FOE NOTED=IT.

These precautions are only necessary when the two last figures of the pounds are under 20, for any number above 19, cannot be mistaken for shillings. Thus this example £95,520..11.:0 may be worded—A FULL HOUSE=I QUIT; as we cannot correctly say—£955..20..11. These figures will be better expressed by this sentence—A PALE ALIEN'S=QUOTA. The same observations may be of use when we have pounds only to recollect.

The learners will perceive from these examples, that in their sentences for pounds, shillings, and pence; the pounds may have as many words as they please to represent them; but the shillings and pence must each have one word, distinct from each other, and likewise distinct from the pounds.

When it happens that they have a combination of figures, where there are pounds and pence, without any shillings, they can use any of the monosyllables, AS, IS, US, SO, SEE, &c. &c. to supply the place of shillings; for,

as the letter *s* is always a cipher when preceded by a consonant, when they find it in a technical sentence of this nature, they immediately recognize it as the character designating the absence of shillings, as in these examples—

£5321..0..4——LIGHT=AS=AIR.
9259..0..8——PHILIP=IS=A BEAU.
526..0..6——LEND=US=AID.
9426..0..1——FRIEND=SO=I EAT.
FRIEND=SEE=I EAT.
5615..0..6——LEAVE TOIL=AS=I DO.

In this last example we cannot mistake the word TOIL, by supposing it 15s. for the word AS, is a distinct mark of the cipher that supplies the place of shillings, therefore whatever word or words precede it, must be pounds. The only probability of mistake will be, where the last character of pounds is a cipher, and that there are no pence, as in this example—£32410..3..0. If we use this sentence, which will properly represent it, I AM HURT AS=I GO, we run a risk of making the word AS, the character denoting the place of shillings, instead of its being attached to the pounds, and might be thus written £3241..0..3; but if we make the word which precedes the shillings of sufficient length, or what is the same thing, put a certain number of consonants in it, mistakes will be prevented, as this sentence will shew=A MAN ROUTS=ME.

These examples may serve to guide learners in their early career.

Similar combinations will be serviceable to them whereever words are used for figures; whether employed in recollecting the heights of mountains, diameters of planets, distances of places, prices of articles, number of a hackney

coach, or of a house, &c. &c.; but they are recommended, whenever they can call in the assistance of association, never to neglect it.

The author is aware that it will be sometimes difficult to make as happy assimilations as may be desired; but the most indifferent will assist: indeed, the very *act* of endeavouring to associate, will tend to fix more permanently our objects in the mind: and he is certain that a very little practice, will render it easy for a person to make an assimilation, that will be for his own purpose, sufficiently apposite. Unless the indolent apply, they cannot expect success in this branch of knowledge, nor in any other. The following example of the number of uninhabited square miles that are on the surface of the earth, may guide in other instances—they are 160,522,026. The consonants placed thus, T D S, L N N, S N D, will, by introducing vowels, become this sentence — A TEDIOUS, LINE ON, SAND; which sentence is certainly easier to recollect than figures. But if it be observed, that as a great portion of the uninhabited parts of the earth is SAND, to have to travel through the whole, it would be indeed A TEDIOUS LINE ON SAND; such association would tend to impress our minds much better than without it. The Decameron of Boccacio lately sold for £2260, making the word HANDS: we can observe that an immense sum of money was paid for it, and after all, the work only changed HANDS. The height of Bull barrow, in Dorsetshire, is 927 feet; it will make the word PINK: we may here make a ludicrous image of a *Bull in a Barrow* with a PINK on his forehead. The height of the highest of the Pyramids of Egypt is 693 feet, it makes the word DEFAME: we can observe, that to say the large Pyramid of Egypt was not one of the greatest wonders in the world, would be to DEFAME it.

There may be sometimes a difficulty in making one suitable word of several figures, such as the height of a mountain, &c. &c. in which case we can use two, or three, or as many as we please. The height of *Snowdon mount* is 3571 feet; it will make the word MULCT: but a better association may be formed of two, in the words MILK TEA, observing, that as *snow* is white, and *milk* also being white, some assistance may be derived from the analogy. Still further, it may be said, that as Wales is frequently the resort of valetudinarians, to drink Goat's *milk*, we can in imagination place some of them on mount Snowdon, drinking MILK TEA.

Learners are requested not to study the subsequent chapter, until they know the scale of consonants and figures, and, if possible, have applied them.

CHAP. V.

THIS chapter is a continuation of the former part of the subject, in the application of figures, to characters expressive of hundreds, thousands, millions, and fractions. To accomplish this necessary part of the system, it was observed that the students ought to be well acquainted with the power and combinations of the first arrangement of *numerals*, ere they use them here, or they will be liable to confound the two parts, which are in themselves perfectly simple.

As all the consonants in the alphabet are engaged in the scale, page 29, the difficulty may appear insuperable:

but notwithstanding their *distinct* use in that table, a certain modification of them has been effected, to produce the desired object, without interfering with the simplicity of that arrangement. The letters s and x, the students know, are applied to designate the 0, or cipher, as the words WISE and VEX will exhibit, making the figures 80 and 60; but if those letters were solely appropriated to the cipher, we should lose the very valuable assistance of all the words that begin with them: thus SMILE, SON, EXTENT, &c. &c. could not be used; for the first, if changed into figures, would be 035; the second 02; the third 0121; which arrangement of figures never occurs, except in decimal fractions, to which branch it may be applied without any alteration. But for all the other parts of arithmetic, the following addition to the first plan will be found applicable.

Whenever the letters s or x, exist *solely* in a word, neither *preceded* nor *followed* by any other consonant, such word is to be a character for 100; thus the words SEA, SO, SEE, AS, US, OX, AXE, &c. &c. are each expressive of 100. If we subjoin *another consonant* to either of them, they each retain the character of *One hundred*, and the added consonant has its original value: the word SAT will be 101, the S, being one hundred, and the T a 1—SON, 102—SOME, 103—OXEN, 102, &c. &c. But if we increase the number of consonants beyond two, whether three, four, five, or six, &c. in a word or sentence, the s and x so situated (beginning them) merely supply the first *unit's* place, and have the same power as the letters T or Q, and become either hundreds, thousands, or millions, as they have consonants added to them. The word SPICE is 197, the S being 1, the P and C being 97. SHARE is 124. If we add to the former, an s, and make it SPICES, it becomes 1970, as a D

being added to the latter, making SHARED, becomes 1246. This sentence, SPICES ARE EATEN, make the following figures — 1,970,412: the same rule applies to the letter X. The word EXACT will be 171, as EXACTION will be 1712, &c. &c. but when either of those letters are preceded by a consonant or consonants, they cease to be considered otherwise than orignally given, that is, they are *ciphers*. SEE would be 100, but TO SEE would be 10.

It may appear that the example in page 43, of the word SOOT, associated with *Three Fingered Jack*, will contravene this rule; but as that, was one of the illustrations given, to assist in recollecting a number of figures consecutively arranged, the word SOOT representing the figures 01, though associated by itself, was still a part of a series of figures, in which were many consonants *preceding* it.

To have a character for *One Thousand*, and *Thousand*, we must combine the letters T and H; and form them into a word—thus, THE will be 1000; THEE, THOU, OATH, &c. &c. will express the same number. If we add a consonant or consonants to such words, they will have their primary force, enumerating them in the order of units, tens, hundreds, &c. The word THAT will be 1001, the letter T being a 1—THAN, 1002—THEREFORE, 1,494. Care must be taken, to mark, that TH is not considered as 1 and 2, as in the table of letters and figures, for the word THEREFORE might be transposed, and called 12,494.

So far regards the application of TH, as a character for *One thousand*: to use it where it is more wanting, as *Thousand*, is equally simple. Whenever *it* is *preceded* by a consonant, it loses its character of *One thousand*, and must be strictly understood to refer to *Thousand* solely; the preceding consonant determining its value: thus the word FAITH represents 9000, the F being 9, the TH being *Thousand*.

If this distinction were not attended to, and TH always understood to be *One thousand*, the word FAITH might be called *ninety-one thousand*. DOTH is 6000, WILLETH 855,000, A RUDE OATH 46,000, &c. &c. Where TH occurs in a word, preceded and terminated by a consonant or consonants, it is in the same manner to be considered as designating *thousand*. The word NEITHER will be 2004, N being 2, the TH *thousand*, and R a 4. MOUTHFUL is 3095, WORTHLESS, 84,500.

It may be considered, that by this application of TH, those letters can never be used as 1 and 2, but they can with perfect safety: Whenever they are found in a word or sentence not combined, *as* TH, they have their original characters, 1 and 2, TENSE being 120, HAND 226. If they even occur in the same word, *not combined*, they are still to be considered distinct. PHÆTON is 9212. The word OUGHT is 321: here the H is before the T; the latter must always precede it, to express 1000, or *thousand*.

TH being the initial letters of thousand, may be easily recollected.

As in the great variety of arrangements with figures, TH already given, though extremely useful, may not be very easily applied in some instances, we make another character, which is to represent *Thousand* only, not *One thousand*. The letters SH, *when joined together*, have this power=thus the word RASH is 4000, CLASH, 75,000, FLASH, 95,000; but in the beginning of a word followed by a consonant or consonants, it does not differ from its former classification. The word SHUN, is one hundred and twenty-two; SHERIFF is 12,499.

To express *one million*, and *million*, we use the vowel Y, which has nearly the same powers applied to millions, that *th* has to thousands. The word YOU is *one million*, as are

the words YE, EYE, AYE, &c. If we add consonants, they are to be enumerated as units, tens, &c. from the right hand to the left. The word YET is one million and one—YOU, one million and two—YOUNKER, one million, two hundred and seventy-four, &c.; but its principal use, is to express *million*. Thus 3,000,000 is represented by either the words MAY or GAY, the *M* or *G* being 3, the Y million. DAY is 6 millions, CLAY is 75 millions, PULLEY 955 millions, &c.

Not to lose for general purposes, the services of the Y; which would be be the case if always considered as a *million*, it may be used as a *vowel* in all the situations where it would be impossible that it should be mistaken for *millions*; thus the word PLAY in Geography, might be properly called 95 degrees of Longitude, as we could not say *millions* of degrees. In Chronology, the word DISMAY, cannot be termed 603 *millions* of years. It only requires to be kept apart, for all those purposes where mistakes might occur, as in Revenue, Astronomy, &c. &c.

When the students are practised in the system of figures, they can make any modification of the consonants for particular purposes, that they may find requisite, but if introduced in the early part of their study, may confuse.

Thus the combination of the letters *nt* could be used to represent *One hundred thousand*. The words ANT or AUNT expressing them. When preceded by consonants, the rule applied to TH and Y will guide: HAUNT will be *Two hundred thousand*—LENT 500,000—BENT, 800,000, &c.—Where there are more consonants than one, before *nt*, their value will be understood by the common rules of enumeration: the word FLINT will represent *nine millions five hundred thousand*:—for the letter L united to *nt*, being a character for 500,000, the next higher number must be millions.—BURNT is *Eight millions four hundred thousand:*

REPRI*nt* is *Forty-nine million, four hundred thousand:*—REPRI*nt*ED is the same sum, with the addition of the unit 6,—49,400,006. REPRI*nt* A GRAMMAR, will make the figures 49,434,334;—here the word GRAMMAR has the proper number of consonants that follow the four hundred thousand (marked by the R*nt*), without any intervening cyphers.

Learners must impress upon their minds, the properties they attach to such combinations, not to translate the letters *nt* as 21.—But it would, perhaps, be better, only to use them where a number of ciphers occur after a figure or figures; as 600,000 is very conveniently represented by the word VENT, or DONT; indeed, without some such arrangement, it could not be expressed, as their would be a very great difficulty in procuring the letters s or x, to follow the letter representing 6, in any kind of grammatical order. But in such a series of figures as the one already instanced, 49,434,334, the use of the *nt* may be avoided, by a sentence of this nature, REPAIR A GRAMMAR, or REPAY, RIGOUR, MEGARA.

The students need not hesitate to use *nt* as 21, in all the situations, where they know that *hundred thousands* cannot be applied.

It is sometimes necessary in figures to recollect fractions, whether attached to pounds, shillings, and pence, or to weights and measures; to have a character for this purpose, we must make free with our first scale, as in the recent instance of thousands, &c.

We select the letter G to be the *seperatrix* between the *numerator* and the *denominator*, to have no value in itself, but merely to be the *sign* of the fraction; the *numerator* being the consonant or consonants that immediately precede it, and the *denominator* that follow it.—Thus $\frac{3}{4}$ is represented by the words NEGRO or ANGER; N being 3,

the G equivalent to the dividing line; and R the character for 4—MEAGRE or MAUGRE, will represent $\frac{3}{4}$;—$\frac{5}{7}$ by ELEGIAC;—$\frac{8}{9}$ by BIGPIE;—$\frac{4}{1000}$ by ARGUETH, &c.

Where the numerator is 1, it need not be expressed, the letter *g* equally representing the fraction, and such unit *only*—thus $\frac{1}{2}$ may be known by the words *g*UN, *g*ONE, *g*AIN, &c.—$\frac{1}{3}$ by *g*AME—$\frac{1}{4}$ by *g*EER or *g*ORE—$\frac{1}{5}$ by *g*ALE, $\frac{1}{10}$ by *g*ATES—$\frac{1}{11}$ by *g*O QUIET—$\frac{1}{1000}$ by *g*OTH, &c. &c. Here there will be no difficulty in recognizing the fractions; for as they are always the last figures in any sum, whenever we find a word, terminating our technical phrase, that has the letter G in it, followed by another letter, expressing the *denominator*; we know at once that Fractions are included, as in this sentence: TIMES ARE QUITE MEAGRE—there can be no difficulty in converting it into — — £130 4 11¾

TIMES ARE QUIET I AGREE	130	4	11¼
TIMES ARE QUIET AGAIN -	130	4	11½
FRIENDS TOO ARE *g*ONE -	94,260	1	4½

Although we use *g* as the sign of fractions where they are wanting, we may still apply it in all cases, where there is no risk of confounding it; even in the same word or sentence, in which fractions are; for knowing that they can be expressed only once in a sentence, and that the word representing them must be the last, if a *g* be in that word, no danger of erring can arise—as in this example, 236..13..3½ may be written, IN GOOD=TIME=I GO=AGAIN.

In these various modifications to produce useful characters for hundreds, thousands, millions, and fractions, there may be a few objections started, in applying some words that are not reducible to the rules laid down; although the instances are very few that can be cited, it may be necessary to mention them.

We shall begin with the doubts that may arise with

the letter S, in its *double* capacity; for although the writer conceives, that the application is sufficiently perfect in all its bearings; yet as objections have been made by some friends, who were satisfied with his explanations; he thinks it proper to notice them here, lest others should entertain similar opinions. How can the words, AS, ASS, and ASSES, be reconciled to represent 100? (their application is not doubted, where a consonant precedes them, for then they would be all ciphers). If the readers refer to page 53, they will find it clearly expressed, that the first word As, is 100; and if they read a little further, they will find that if *another* consonant be subjoined to a preceding s, that such word will still be for 100, and the second consonant will have its original value, as in the word SAT, being 101. If this be easily understood, there can be no difficulty in determining that the word Ass is 100, for the second S being a cipher, when preceded by a consonant, can neither add to nor diminish the former. If it were allowed that as the first word As, was a *hundred*, and that another cipher added to it, would make it a *thousand*, then the second s would have a superior value to the T in the word SAT, or N in the word SON, &c. which words are plainly enough understood to be 101 and 102.

The subsequent explanation, page 53, will shew that ASSES, can express no more than 100; as the word SPICE shews; which is 197.—*Three* consonants for *three* figures; and so far from its being a defect in the system, to have several words, to represent the same figure or figures, Mnemonicians will find, that however copious the English language may be, that the words are, if any thing, too few for the purposes, to which they may wish to apply them.

If the letter S had only two powers; to be used as a cypher, when preceded by a consonant; and when begin-

ning a word, to be a character for 1 in all situations, whether for tens, hundreds, thousands, or millions, it would be certainly more simple, but much less useful than the present arrangement, as a little practice will prove.

The junction of TH, for one thousand is not so perfect; for there are a few words that do not come under the given rules; for it is observed in page 54, that TH commencing a word, is *one thousand:* and if followed by other consonants; They are to be enumerated in the regular mode, from the right hand to the left, in units and hundreds, as the word THOROUGH exhibits, making 1432—Here it is evident that if more than *three* consonants follow TH, the rule will not apply, as in the word THOROUGHFARE, which makes the figures 143,294, being two figures more than can come under the head of *thousands*, if TH be allowed to hold the same rank throughout. But here the students are desired to recollect,that in their application of this system,they have always the choice of their own words; and when one occurs that cannot be employed easily, they may reject it and take another, of which they have no doubt; that as figures are not intended to represent words, but words to represent figures; they have themselves the selection, and of course, would not use one that might confuse them.—Further, that although TH was intended to be applied as a character for 1000, Yet it was principally devised for *thousand*, to which no objection can be found; for its value cannot be injured by any number of consonants preceding it, as it may be extended to millions or billions, and yet retain its proper character, as this word will shew, DREADFULOATH, which is in figures, 64,695,000, sixty-four million, six hundred and ninety-five thousand.

But that their may be no words in the language, unapplied, if desired; this arrangement will be found effec-

tual. When TH is followed by more than *three consonants*, it shall lose its character of *One thousand* and be considered a 1;—thus THOROUGHFARE will represent 143,294, one hundred and forty-three thousand, two hundred and ninety-four—this rule will be found easy and effectual. One doubt more may arise in the word THITHER, in which TH occurs *twice*; this can be remedied by making the second, hold its character of *thousand*, but the former TH to be a 1 and 2—it will become by this mode, 12,004: THRASH, by the same rule, 124,000. But these exceptions may be left aside without any inconvenience; nor can they be urged as a cause for abandoning TH, which is found to be so generally useful.

The objections to Y may be in those words, which begin and end with it; but they can be overcome, by considering in all such cases, the final Y as a vowel. As YEARLY may be viewed as if the Y were an I, YEARLI, which would therefore be one million and forty-five: YEOMANRY, one million, three hundred and twenty-four.

Chronology.

IN applying this system to that portion of Chronology, which relates to the order and succession of monarchs, the periods that each ascended the throne, &c. There will be a considerable difference in the arrangement or basis; and the mode of association, between it and general history.—In the latter, the plan and disposition of places will be different—symbols will not be required, the recorded events need no distortion, a correct and classical assimilation may be adhered to throughout; but in the former, the association of monarchs, dates and symbols, are of that nature, which at first view may appear objectionable; but, which, the writer hopes, a little consideration, and a conviction of its practical utility will remove.

Various modes have been devised, to impress chronological tables in the mind; which is a proof of the importance attached to that branch of study: poetry and prose in all its varieties have been employed; but none of the plans that the author has examined, he feels confident in asserting, are so well calculated to attain the proposed end, either in quickness, permanency, or disposability as the present, which, if he substantiate, will be powerful argu-

ments in its favour; indeed the only objection that can be made, he conceives, is to the very free use he makes of the grotesque; the assistance of which he would at once reject, were it not, that its importance is so manifest to him, that if he dispensed with it, he fears that he would be unable to atchieve the point he is so desirous of gaining.

If he attempted to enter into the various arguments, that may be advanced for, or against the present arrangement, he would unnecessarily swell this work; and perhaps fail in demonstrating to many its utility; he must therefore leave it to the public to decide; he only requires, that those who condemn, will try its power ere they disapprove: Before they ridicule it as frivolous; examine if it be not efficient: This ought to be the test of condemnation or applause.

If in a dry study, we find a playful or a ludicrous assimilation assist our memory, in a superior degree to a more sober, chaste, or correct association, in subjects where brilliancy, wit, or genius, cannot be violated; the author imagines, that the most classical feeling need not be alarmed; such a mode unbends the mind from severer pursuits, impresses and amuses at the same time. But if, notwithstanding his predilection, in its favour (from its utility alone) others adhere to a contrary opinion; they could, by the adoption of the same means, be as classical, as refined as they please. *It only* remains for him now to unfold his plan, for approbation or censure:—

It is frequently desirable to know the order of succession of the monarchs whose dates we impress: to know for instance that *Commodus* was the 18th Emperor of Rome, or *Henry* VIII. the twentieth monarch from the conquest, independently of being able to state that the former began to reign in 180 A.D. as the latter did in 1509. This

object can be attained, by associating the different monarchs of the respective countries, with the *symbols*; commencing with *Ate*, and proceeding forward to the period, we choose to terminate.

Agreeably to this plan we shall first present the English monarchs; beginning from the close of the Heptarchy, when the kingdom of England became united in the person of Egbert; and terminating with the reign of his present Majesty, King George the Third. The whole of which may be committed to memory in one hour, if the symbols be well impressed on the mind before hand; if not, the author recommends the students, before they enter on the present pursuit, to re-peruse his directions, pages 37 and 38, and act upon them, by committing, at least, fifty symbols to memory.

TABULAR ARRANGEMENT OF THE KINGS OF ENGLAND FROM EGBERT.

No.	Names.	Dates of Accession.	Symbols.	Technical Words.
1	Egbert	827	*Ate*	BANK
2	Ethelwolf	838	*Ino*	BAMBOO
3	Ethelbald	857	*Guy*	BLEAK
4	Ethelbert	860	*Roe*	WOODS
5	*Ethered	866	*Leo*	WEAVED
6	Alfred	872	*Ida*	AWAKEN
7	Edward the Elder	901	*Oak*	FIST
8	Athelstan	925	*Obi*	PHIAL

* Hume calls him *Ethered*; most writers call him *Ethelred*.

No.	Names.	Dates of Accession.	Symbols.	Technical Words.
9	Edmund I. - -	941	*Ape*	FORT
10	Edred - - -	946	*Atys*	PROUD
11	Edwy - - -	955	*Equity*	APOLLO
12	Edgar - - -	959	*Autonoe*	FLAP
13	Edward the Martyr -	975	*Time*	FACILE
14	Ethelred - - - (Sueno of Denmark usurped in 1013 but Ethelred was restored in 1014.)	978	*Equery*	PIKE BOY
15	Edmund Ironsides -	10,16	*Atyla*	TIED

DANISH KINGS.

16	Canute - - -	10,17	*Tuova*	QUAKE
17	Harold Harefoot -	10,35	*Teuca*	MOLE
18	Hardicanute - -	10,39	*Toby*	MOP

ENGLISH SAXONS RESTORED.

19	Edward the Confessor	10,41	*Tupia*	RITE
20	Harold - - -	10,66	*Eneas*	DIED

NORMAN KINGS.

The Conquest.

21	William the Conqueror	10,66	*Natio*	DOVE
22	William II. - -	10,87	*Noah*	WEAK
23	Henry I. - -	1,100	*Hygeia*	SEA
24	Stephen - - -	1,135	*Hero*	SMILE

THE FAMILY OF PLANTAGENET, OR THE SAXON LINE RESTORED.

No.	Names.	Dates of Accession.	Symbols.	Technical Words.
25	Henry II. - -	1,154	*Hyale*	SAILOR
26	Richard I. - -	1,189	*Naiad*	SWEEP
27	John - - -	1,199	*Inca*	SEAPIPE
28	Henry III. - -	1,216	*Hebe*	UNITED
29	Edward I. - -	1,272	*Hope*	INCH
30	Edward II. - -	1,307	*Egeus*	MUSIC
31	Edward III. - -	1,327	*Muta*	MONK
32	Richard II. - -	1,377	*Egeon*	MOCK

HOUSE OF LANCASTER.

33	Henry IV. - -	1,399	*Gama*	MUFF
34	Henry V. - -	1,413	*Maria*	REQUIEM
35	Henry VI. - -	1,422	*Milo*	RHINO

HOUSE OF YORK.

36	Edward IV.	1,461	*Medea*	RIDEOUT
37	Edward V. - -	1,483	*Egica*	ROB ME
38	Richard III. - -	1,483	*Mab*	ROB 'EM

YORK AND LANCASTER UNITED UNDER THE HOUSE OF TUDOR.

39	Henry VII. - -	1,485	*Gopiæ*	ARABLE
40	Henry VIII. - -	1,509	*Iris*	LISP
41	Edward VI. - -	1,547	*Erato*	LYRIC
42	Mary - - -	1,553	*Urania*	ILLUME
43	Elizabeth - -	1,558	*Argo*	YELLOW

HOUSE OF STUART.

No.	Names.	Dates of Accession.	Symbols.	Technical Words.
44	James I.	1,603	*Zara*	DISMAY
45	Charles I.	1,625	*Ariel*	DENIAL
	The Commonwealth from	1,649	*Zaida*	DROOP
	to the Restoration of			DOVES
46	Charles II. in	1,660		
47	James II.	1,685	*Yarico*	AVOWAL
48	William III. & Qn. Mary	1,689	*Arab*	DAWPIE
49	Anne	1,702	*Europa*	COUSIN

THE BRUNSWICK FAMILY.

50	George the First	1,714	*Eolus*	ACQUIRE
51	George the Second	1,727		CHOICE
52	George the Third	1,760		CODES

This table contains the names of the respective monarchs, the periods of their accession to the throne, the symbols with which they are to be associated, and the technical words of the dates. We shall now present the associations necessary to be committed to memory.

As learners will derive considerable advantage throughout the whole course of this system, by endeavouring to form pictures that their minds can fancy; wherever an opportunity offers in these tables, the names of individuals, as well as the words of the dates, will be represented by sensible objects; well knowing, that they are calculated to impress the mind more forcibly than mere words, or abstract ideas, that we cannot embody; the students are therefore recommended to avail themselves of all those aids which a little experience will prove of such advantage to them. For instance, if Egbert, the first of our monarchs,

was assimilated with *Ate*, purely as Egbert, he might be very soon confounded with Ethelwolf, Ethelbald, or Ethelbert: if the first monarch (from being the first) is not likely to be forgotten ; the succeeding ones are not so well defended; but if we dissect the name of *Egbert*, and say that Ate has an *Egg* and a *Bird* in her hand, which she is placing upon a BANK, here we form pictures which we can very readily present to our mental view, to assist our recollection. The students in doing this, must gaze upon the particular part of their room No. 1, where they have already *placed* Ate; and with the symbol likewise in their hand, to assist them in forming the picture; alternately gazing on it and the place; they may in a minute make that kind of representation which will be effectual. If they merely *said* that Ate was placing an *Egg* and a *Bird* on a BANK, this *might* be soon forgotten; but not so, if they *pourtray* it in the mind. If there be a chair, table, stool, or any article of furniture near, they can use it in some manner to assist: if a stool, it can be converted into the BANK. They ought not to content themselves with saying that there is a *Bird*, they may fancy it to be flying, or endeavouring to fly; or represent, that its wings are clipped; or any little aids of that nature, to assist them in recalling the object when they please; the same principle to be strictly adhered to throughout. It may appear more tedious, but in the end it will be shorter, as one or two efforts will *fix* the association. It is scarcely necessary to observe that the words *Egg* and *Bird* are given from their analogy in sound to *Egbert*; and that the word BANK, has the consonants B.N.K, which make the date, 827.

In all the following associations, the words in *Italics* refer to the *Names* of the kings, as the words of the dates will be in small capitals.

ASSOCIATIONS.

1 Egbert. BANK.

Ate is putting an *Egg* and a *bird* upon a BANK.

2 Ethelwolf BAMBOO.

Ino *Hath a Wolf*, which she is beating with a BAMBOO.

3 Ethelbald. BLEAK.

Guy's *Head is Bald*, which makes him look very BLEAK, (for we can suppose that in his encounter with the cow he lost his helmet.)

4 Ethelbert. WOODS.

The Roe *Eat a tall bird*, which it caught in the WOODS.

5 Ethered. WEAVED.

Leo *Eat a thread*, that was WEAVED around him, to ensnare him.

6 Alfred. AWAKEN.

On mount Ida, the inhabitants were *All freed*, to AWAKEN in their minds a love of liberty.

7 Edward the Elder. FIST.

In the Oak, you see a *Guard*, with an *Elder* tree in his FIST—or he is there at his POST.

8 Athelstan. PHIAL.

Three fingered Jack, *Hath a Stone* PHIAL, that he received from the Old Witch, as the Obi or charm to protect him.

9 Edmund. FORT.

The Ape has his *Head* on a *Mound*, that was raised for a FORT—or he looks very PERT.

10 Edred. PROUD.

Aty's *Head* is *red*, of which he is very PROUD.

11 Edwy. APOLLO.

Equity has just received an *Etui* from APOLLO.

12 Edgar. FLAP.

Autonoe is very *Eager* to FLAP Diana, for destroying her son.

13 Edward the Martyr. FACILE.

Time is attacking a *Guard*, whom he is going to *Martyr* in the most FACILE manner—or he will *Martyr* him with a PIKLE.

14 Ethelred. PIKE BOY.

The Equery *Hath a tall red* PIKE BOY to attend him.

15 Edmund Ironsides. TIED.*

Atyla the valiant Scythian, is on *A Mound*, getting *Iron* on his *Sides*, TIED very tightly round him.

16 Canute QUAKE.

Tuova the Indian is exposed so long in a *Canoe* that he begins to QUAKE with cold.

17 Harold Harefoot. MOLE.

Teuca is examining a *Hare* that's very *Old*, as its *Foot* is very like that of a MOLE=or it's *Foot* ran over many a MILE.

18 Hardicanute. MOP.

Toby is in a *Hard Canoe*, which he is washing out with a MOP.

19 Edward the Confessor. RITE.

Tupia (the High Priest) has a *Guard Confessing* to him, as he complies with every RITE of the Church.

20 Harold. DIED.

Eneas caught a *Hare* that was so *Old*, it DIED at his feet.

* As the dates here commence within the year of one thousand, it will not be necessary to include the 1, rspresenting it, in the technical words, as that can be easily recollected to be always prefixed. The Kings, from Edmund Ironsides to William II. being between 1000 and 1100; the two last figures alone are noted.

21 William the Conqueror DOVE.

Natio has 1 *Willow*-tree in her hand, in the branches of which she keeps a DOVE.

22 William II. WEAK.

Noah has 2 *Willow*-trees (one in each hand) that are very WEAK.

23 Henry SEA.

Hygeia is humanely endeavouring to save 1 *Hen* that fell into the SEA.

24 Stephen MILE

Hero is *Stealing* a SMILE at Leander.

25 Henry II. SAILOR.

Hyale with her bow killed 2 *Hens*, that belonged to a SAILOR.

26—Richard I. SWEEP.

The Naiad is talking to a *Rich man*, who was formerly a SWEEP.

27 John SEAPIPE.

The Inca is directing his man *John*, to bring him a SEAPIPE

28 Henry III. UNITED.

Hebe has 3 *Hens* sipping out of her Cup, in a very UNITED manner.

29 Edward I. INCH.

Hope keeps 1 *Guard* in the corner, whom she will not suffer to stir an INCH.

30 Edward II. MUSIC

When Egeus threw himself into the sea, he ordered 2 *Guards* to play MUSIC on the occasion.

31 Edward III. MONK.

Muta orders her 3 *Guards*, to bring a MONK before her, for interrupting her silence.

32 Richard II. MOCK.

Egeon has 2 *Rich men* (one on each side of him) who do nothing but MOCK his attempts to annoy the Gods.

33 Henry IV. MUFF.

Gama is putting 4 *Hens* in a MUFF, (one in each corner).

34 Henry V. REQUIEM.

Maria has 5 *Hens*, (one on each finger of her hand) to whom she is chanting a REQUIEM.

35 Henry VI. RHINO.

Milo has 6 valuable *Hens* presented to him, for his skill in wrestling, they cost a great deal of RHINO.

36 Edward IV. RIDE OUT.

Medea is in a square; in each corner of which she places a *Guard (4 Guards)* to be ready to RIDE OUT, to accompany Jason, when she desires them.

37 Edward V. ROB ME.

Egica is directing 5 *Guards* to attack Fasilia, who exclaims "They come to ROB ME, of my life."

38 Richard III. ROB'EM.

Mab is directing her fairies to attack 3 *Rich men*, and then ROB'EM.

39 Henry VII. ARABLE.

Gopiæ are killing 7 *Hens*, for injuring some ARABLE land; they intend eating one every day in the week (*seven* days).

40. Henry VIII. LISP.

Iris is placing on the ceiling, a nest of 8 *Hens*; that are so young, they can only LISP.

41 Edward VI. LYRIC.

Erato, the muse of lyric poetry, has 3 *Guards* on each side of her (6) whom she is instructing to make verses

purely LYRIC—or she is giving them a sumptuous supper off a LARK.

42 Mary ILLUME.

Urania is very *Merry*, for being dubbed the muse of Astronomy, she is going to ILLUME her house.

43. Elizabeth. YELLOW.

In the ship Argo, there is a large *Lizard*, which is extremely YELLOW.

44 James I. DISMAY.

Zara when taken prisoner, lost all her royal *Gems*; which made her in great DISMAY.

45 Charles I. DENIAL.

Ariel fatigued with flying, is resolved to use a *Chariot*: and have no DENIAL in procuring it.

46 Charles II. DROP.—DOVES.

(He was deprived by the disturbances in England, which terminated in the Commonwealth, and Cromwell's Protectorate; from ascending the Throne in 1649; the year that his father was put to death; but he was restored in the year 1660).

The Naiad, not to be outdone by Hyale; is resolved to have 2 *Chariots*, but one of them is ready to DROP; the other is drawn by DOVES.

47 James II. AVOWAL.

Yarico gave Incle 2 *Gems*, when she made an AVOWAL of her love to him.

48 William III. and Mary. DAWPIE.

The Arab plants 3 *Willows*, and dances round them in a *Merry* mood, as he is promised a DAWPIE, for his dinner.

49 Anne COUSIN.

Europa is sending a *Nanny* goat to her COUSIN.

50 George I.		ACQUIRE.
George II.	*Eolus*	CHOICE.
George III.		CODES.

Eolus, obedient to the dictates of Britannia, directed his winds against the hostile fleets of her enemies; that the subjects of her favourite isles, under the dominions of *George* I. *George* II. and *George* III. should ACQUIRE CHOICE CODES, for their protection.

As *Eolus* is the last symbol in the first room, it was considered unnecessary to associate George II. and George III. with *Lot* and *Juno*; it may with ease be recollected, that the *three* monarchs of the name of *George*, are with him assimilated; and that the present monarch is the fifty-second from Egbert.

Learners are advised to adopt the same plan in committing the chronological associations to memory, as in page 47, in remembering the figures; to proceed slowly but surely: first, to make themselves perfect with the floor, then the first wall, &c. &c.—By repeating them once a day, for a few days, *always looking at the places*, they will become so strongly impressed, that they will scarcely ever forget them.—It will be useful when they have repeated each story, to connect the *Name* of the monarch with the *Technical word*, as it will give a facility in answering to their dates, thus *Egbert*, BANK; *Ethelwolf*, BAMBOO, &c. &c.—They may sometimes exercise themselves, by determining the 14th, 27th, 36th &c. sovereigns: which they can do very quickly by thinking of their respective *localities* and *symbols*. They can also tell, with sufficient accuracy, the length of time a king reigned; by deducting the period that he commenced his reign, from the date of the

accession of his successor:—thus, if asked, How long did Henry VIII. reign?—the technical word for him is LISP; which is quickly resolved into the figures 509, (by prefixing the figure 1 is 1509). His successor was Edward VI. the word LYRIC attached to him is 1547—by subtracting 15;09 from 15,47; the remainder, 38 years; was nearly the exact length of Henry's reign.

They can likewise, by a little practice, immediately pronounce who reigned, when a *date only* is mentioned; thus they hear, that a memorable circumstance occured in the year 1415, which date is not the commencement of any king's reign; they know that the figure 1, representing one thousand, was not employed in their associations; they should only direct their attention to the figure which follows it:—in the present instance a 4, the letter representing it is R; they have now to think of any of those monarchs whose technical words commence with R:—Henry V. and REQUIEM, will be soon presented to the mind; which word reduced to figures, is 1,413.—To be certain that 1415 was in his reign, let them consider who was his immediate successor—Henry VI. and RHINO the date, was the next assimilation, being 1,422; which proves that it could not be in the reign of Henry VI.—the year 1422 being the time *he* ascended; and as no monarch reigned between Henry V. and Henry VI. it must therefore be in the reign of the former; by deducting 14,13 from 14,15 the date sought for; they perceive that he was then about two years upon the throne; they cannot fail in recollecting (if they have read the History of England), that it was about that period, the celebrated battle of Agincourt was fought.—Who reigned in 1,396? M is the letter representing 3. The technical words beginning with M, are MUSIC, MONK, MOCK, MUFF; it will be seen that it was in the reign of Richard II. the word MOCK being 1377.—MUFF following it, is 1399. Thus any date of the British

history, from Egbert to the present time ; being presented to the student of this system ; whether an inscription of a church or castle being erected ; a batcle fought ; &c. they quickly determine the name of the sovereign that then reigned—and if at all acquainted with history, they can, by such means, recollect the important transactions of Europe, at that time ; which in general, was in some degree directly or remotely, interwoven with the British history.

The ingenious students can apply many passages of the connecting stories, that may be made to bear upon the historical facts ; and thus doubly assist them : they can remark, that as under Egbert, the greater part of England became consolidated ; it had then the appearance of a firm BANK ; compared with the numerous mole-hills raised by the petty monarchs of districts.

Mount Ida can represent Britain ; the inhabitants of which were *All-freed*, by the admirable administration of her sovereign, Alfred ; who was anxious to AWAKEN in their minds a love of liberty.—With William the Conqueror, the DOVE might be represented as the messenger from him to Harold demanding the crown, the *Willow*, the emblem of sorrow for his despotism.

The word SEA, may be impressed with Henry I. as he lost Prince Henry his son, and the greater part of his nobility, by a storm at SEA.

Edward V.—ROB ME, is sufficiently striking, applying it, to his successor's conduct to him.

Under Henry VIII. the Reformation began to LISP.

James I. was always in DISMAY, when he saw a sword drawn (as his historian relates.)

Charles the First's DENIAL of the claims of his subjects was the cause of his ruin.

The fallen fortunes of Charles II. in the early parts of

his life, may be illustrated by the word DROOP; his levity by supposing his chariot drawn by DOVES.——George III. having framed a great many excellent CODES, &c. &c.

The numerous subscribers of the author, who learned the English Chronology by attending his lectures; by commencing then, only from William the Conqueror; need not disturb the order of their associations, but merely commence again with Egbert, and finish with Harold. They who adhere to the present mode, can readily determine the order of any monarch's succession from the conquest; by deducting 20, (the number of kings that preceded William) from any proposed number. Thus, the 32d king from Egbert, will be the 12th from the conquest.—Richard II. Henry VIII. the 40th from Egbert, is the 20th from William, &c. This mode of proceeding from Egbert, he conceived to be better than the former, from William; as he has only occasion to use his symbols once, whereas by the former arrangement, twenty of them will be employed twice.

CHRONOLOGY

OF

The Roman Emperors.

IT may occur to the mind, in the contemplation of the following table and associations; that there will be some danger of confounding the English Kings, with the Roman Emperors, as the same symbols are the vehicles employed for recollecting both; but this the author is satisfied will not be the case, if learners give them a *fair trial.* If they commit the former well to memory first, they incur no risk. He cannot answer for their complete success in separating them in their minds; if they proceed *directly* from the former to the latter, with only an imperfect impression of them on their memory; it will answer no good purpose to do so, either with or without this system. But he advises them, if they have rooms enough at their command, to use a *distinct* apartment, for each series of monarchs; their British, Roman, French, and German Rooms, will preserve a sufficient distinction, and prevent the possibility of confounding them. If they know their symbols well, they can transfer them to any room with perfect ease. —The same methods to be adopted in this, (and every similar occasion), as directed in the British chronology— "*Associations with symbols and places.*"

It may excite a smile, (perhaps of contempt) to observe the far-fetched assimilations that are employed in this work—but the critic is requested to pause before he condemns: to consider that the materials are few that can be employed: the dates presenting no great variety of words to adapt, and the names of the persons often so difficult to combine, as to defy every effort at successful similitude: the author has had no leisure to attempt more than he has done—but he has the satisfaction of knowing; that those who have applied the system have found the associations, indifferent as they are, successful.

Learners can select which of the following tables they chuse to commence with.

They may have some apprehension, by merely reading them, that they will be found difficult to impress on their minds, but if they carry into effect, the plan laid down in page 68, such opinion will be removed: if they merely committed them to memory by rote, it would appear formidable; not so, if the symbols are familiar to the mind, and that they gaze at their respective localities in applying them.—Each order of monarchs may be committed to memory in one hour, which, by any other mode, would perhaps require six times the length of time.

TABLE OF THE ROMAN EMPERORS FROM JULIUS CÆSAR.

No.	Names.	B. C.	Symbols.	Technical Words.
1	Julius Cæsar - -			
	Battle of Pharsalia	48	*Ate*	Robe
	Assassinated - -	44		Roar
2	Augustus - - -			
	Battle of Actium -	31	*Ino*	Mate

No.	Names.	A.D.	Symbols.	Technical Words.
3	Tiberius - - -	14	*Guy* -	TREE
4	Caligula - - -	37	*Roe* -	MICE
5	Claudius - - -	41	*Leo* -	RAT
6	Nero - - -	54	*Ida* -	LYRE
7	Galba (reigned 7 months) Put to death, Jan. 16, 69.	68	*Oak* -	DAW
8	Otho (reigned 3 months)	69	*Obi* -	DEFY.
9	Vitellius (8 months) -	69	*Ape* -	DEEP
10	*Vespasian - -	69	*Atys* -	DEAF
11	Titus - - -	79	*Equity*	KEEP
12	Domitian - - -	81	*Autonoe*	BITE
13	Nerva - - -	96	*Time*	FEUD
14	Trajan - - -	98	*Equery*	PAW
15	Adrian - - -	117	*Atyla* -	STAKE
16	Antoninus Pius -	138	*Tuova*	TOMB
17	Marcus Aurelius, and Lucius Verus - The latter reigned 9 years.	161	*Teuca*	SEDATE FOE
18	Commodus - -	180	*Toby* -	TUBS
19	Pertinax (3 months) -	193	*Tupia*	EQUIPAGE
20	Didius Julianus (2 months)	193	*Eneas*	EQUIPAGE
21	Septimus Severus - He was opposed by Niger and Albinus, but they were soon overthrown.	193	*Natio*	EQUIPAGE
22	Caracalla and Geta - The latter was killed in	211 212	*Noah*	ANTIQUE NOTION

* It wanted only a few days of the year 70, when he was made Emperor in December 69.

No.	Names.	Dates.	Symbols.	Technical Words.
23	Opilius Macrinus - And his son Diadumenius - - -	217	*Hygeia* -	Notice
24	Heliogabalus - - Son of Caracalla	218	*Hero* -	Hautboy
25	Alexander Severus - Cousin to Heliogabalus	222	*Hyale* -	Ninny
26	Maximin - - - The two Gordians were proclaimed in - - But were killed before the death of Maximin. They reigned but 36 days.	235 236	- *Naiad* -	Homely Named
27	M. Pupienus and Balbinus	237	*Inca* -	Any mice
28	Gordian - - -	238	*Hebe* -	Numb
29	Philip the Arabian -	244	*Hope* -	Hurry
30	Decius - - -	249	*Egeus* -	Harpy
31	Hostilianus, son of Decius, proclaimed as an associate with Gallus; but he died shortly after, when Gallus took his own son Volusian as a Partner			
	Gallus and Volusian -	251	*Muta* -	Halt
32	Emilianus - - Murdered four months after he was proclaimed.	254	*Egeon* -	Injure
33	Valerian, joined with him Gallienus - - - Gallienus alone - -	254 260	*Gama*	In a jar Hideous
34	Flavius Claudius -	268	*Maria* -	Endow

No.	Names.	Dates.	Symbols.	Technical Words.
35	Aurelian - - -	270	*Milo* -	Hooks
	After his murder, an interregnum of 8 months.			
36	Tacitus - - -	275	*Medea* -	Nicely
	Died in six months.			
37	Florianus, proclaimed in	276	*Egica* -	Onceaday
	Reigned two months.			
38	Probus - - -	276	*Mab* -	Inked
39	Marcus Aurelius Carus, who joined with him his sons Carinus and Numerianus, being Cesars - - -	282	*Gopiæ* -	New one
40	Dioclesian - -	284	-	Unwary
	He took Maximianus as his partner in -	286	*Iris* -	Unawed
	(And afterwards joined with him Constantius, and Gallerius in 292 = to whom the two former resigned the empire.)			
41	Constantius & Gallerius Chloris Maximianus	304	*Erato* -	Measure
	The former died in 306, when his Son Constantine succeeded him.			
42	Constantine proclaimed in	306	-	Amused
	Maxentius, son of Maximianus - -	306	*Urania*	
	Licinius - -	308	-	Goesby

No.	Names.	Dates.	Symbols.	Technical Words.
	Thus at one time four Emperors reigned.			
	Gallerius, who died -	311	-	IMITATE
	Maxentius, drowned in the Tiber - - -	312	*Urania*	EMOTION
	Licinius, died - -	324		MANOR
	Constantine survived them, and became sole Emperor.			
43	Constantine, jun. Constans and Constantius -	337	-	MIMIC
	Constantine, jun. died in	340	*Argo* -	MOROSE
	Constans, do. - -	350	-	MULES
	When Constantius reigned alone.			
44	Julian - - -	361	*Zara* -	MEDIATE
45	Jovian - - -	363	*Ariel* -	MADAM
	Died in - - -	364		MADEIRA

After the death of Jovian, the empire became divided into Eastern and Western, under Valentinian and Valens.

ASSOCIATIONS.

1 Julius Cesar ..... ROBE—ROAR.

Ate—There is a *Jew* going to *Seize her* ROBE, which makes her ROAR.

* For a very short period six Emperors reigned.

2 Augustus .... MATE.

Ino is in *A Gust* of rage, flying away from her MATE.

3 Tiberius .... TREE.

Guy is endeavouring to *Tie berries* on a TREE.

4 Caligula .... MICE.

The Roe is going to *Kill a Gull* for destroying some MICE.

5 Claudius .... RAT.

Leo *Clawed us* like a RAT.

6 Nero .... LYRE.

On mount Ida *Nero* is playing the LYRE.

7 Galba .... DAW.

In the Oak there is a *Gabbling* DAW.

8 Otho .... DEFY.

Obi, or rather Three fingered Jack, swore a great *Oath* that he would DEFY any person.

9 Vitellius .... DEEP.

The Ape is eating his *Victuals* out of a Dish that is very DEEP.

10 Vespasian .... DEAF.

Atys bore with *Vast patience* his misfortune of being both dumb and DEAF.

11 Titus .... KEEP,—or CUP.

Equity has a very *Tight house* to KEEP her in,—or she is eating *Tatoes* out of a CUP.

12 Domitian .... BITE.

Autonœ seeing Acteon pursued, exclaims, *Do my son* fly, or the Dogs will BITE you.

13 Nerva .... FEUD.

Time is straining every *Nerve*, to suppress a dangerous FEUD.

14 Trajan .... PAW.

The Equery is mounted on a *Trojan* horse, that begins to PAW.

15 Adrian ..... STAKE,—or STEAK.

Atyla is putting an *Adder on* a STAKE,—or he is eating a STEAK, and its *A dry on'*.

16 Antoninius Pius ..... TOMB.

Tuova's *Tone is Pius*, weeping over a TOMB.

17 Marcus Aurelius ..... SEDATE.
Lucius Verus ..... FOE.

Teuca will *Mark us, Or rail us*, if we be not SEDATE, and *Lash us*, and *Veer us*, like a FOE.

18 Commodus .... TUBS.

Toby keeps his ale in some *Commodious* TUBS.

19 Pertinax .... EQUIPAGE.

Tupia has a *Pretty axe* carried before his EQUIPAGE.

20 Didius Julianus ... EQUIPAGE.

Eneas could not be enticed by *Dido's Jewels*, nor her EQUIPAGE.

21 Septimius Severus ..... EQUIPAGE.

He was opposed by Niger and Albinus.

Natio will *Sip tea with us*, but she is as *Severe as* possible if we touch her EQUIPAGE, that is *Nigh a jar* full of *Old beans*.

22 Caracalla and Geta ..... ANTIQUE

The latter was killed the following year. NOTION.

Noah is endeavouring to *Get a, Card rack all* ANTIQUE, is his NOTION.

23 Opilius Macrinus ..... NOTICE.

He associated with him his son Diadumenius.

Hygeia will *Peel us* some *Macaronies* to induce us, her *Diadems* to NOTICE.

24 Heliogabalus .... HAUTBOY.

Hero gabbles as loud as a HAUTBOY—or *Hero* will *go bail us*, if we should be in debt for a HAUTBOY.

25 Alexander Severus .... NINNY.

Hyales Keg of *Ale leaks yonder*, which makes her as *Severe as* a NINNY.

26 Maximin .... HOMELY.

The two Gordians were .... NAMED.

They reigned only 36 days.

The Naiad is writing a *Maxim in* a HOMELY manner, but she is *Too gaudy a one* to have it NAMED.

27 Pupienus and Balbinus .... ANY MICE.

The Inca has some *Puppies*, that *Babble nigh us*, when there are ANY MICE near them.

28 Gordian .... NUMB.

Hebe is tying the *Gordian* knot until her fingers are quite NUMB.

29 Philip .... HURRY,—or HUZZA.

Hope often gives us a *Fillip* in a HURRY—or she will give us a *Fillip*, if we don't HUZZA when she inspires us.

30 Decius .... HARPY.

Egeus is throwing *Dishes* at a HARPY.

31 Hostilianus proclaimed with Gallus; the former died soon after, when the latter took his own son Volusian as a partner .... HALT.

Muta is on a *Horse stealing on us*, to *Gall us*, if in an *Evolution* we should HALT.

32 Emilianus (murdered in 4 months) INJURE.

Egeon is throwing *Mealon us*, to INJURE us,—or he swore that *Millions* could not INJURE him.

33 Valerian, who joined with him his son

Gallienus. .... IN A JAR.

Gallienus alone .... HIDEOUS.

Gama is putting some *Valerian* In a jar, to send on board his *Gallies* that are very Hideous.

34 Flavius Claudius ... In view—or Endow.

Maria will *Flay us* or *Claw us*, if we come In view of her—or if we do not Endow her.

35 Aurelian .... Hooks.

Milo (the Wrestler) would *O'er reel one*, if he caught him in his Hooks.

36 Tacitus .... Nicely.

Medea is very *Tacit* to *us*, as she thinks she appears nicely.

37 Florianus (reigned 2 months) Once a day.

Egica puts *Flowers on us* Once a day.

38 Probus .... Inked.

Mab will *Probe us*, because we Inked her Gown.

39 Marcus Aurelius Carus ..... New one.

Who joined with him Carinus and Numerianus.

Gopiæ will *Mark us*, *Or rail us*, or *Scare us*, like a New one, if we have not *Care in us* they will not *Humour any of us*.

40 Dioclesian .... Unwary.

He joined with him Maximianus in ... Unawed.

Iris would *Die a clashing* on the Unwary, her *Maxims* Unawed.

41 Constantius and Gallerius. Measure.

Erato is *Constantly* in some *Galleries*, endeavouring to Measure them.

42 Constantine and Maxentius ..... Amused.

Licinius .... Goes by.

Thus at one time there were 4 Emperors.

Gallerius, who died ..... IMITATE.
Maxentius, who died ..... EMOTION.
Licinius, who died ..... MANOR.

On the death of the latter, Constantine became sole Emperor.

Urania is *Constant in* her endeavours to *Make sense to us*, of that which AMUSED her, although she is so *Licentious* that she GOES BY some *Galleries* every day, to IMITATE with peculiar *Accents* and EMOTION, the *Licentious* airs of the Lord of the MANOR.

43 Constantine, jun. Constans & Constantius MIMIC.
Constantine, jun. died ..... MOROSE.
Constans, ditto ..... MULES.

When Constantius retained the sovereignty.

In the ship Argo (Rome) the Three brothers, *Constantine*, *Constans*, and *Constantius*, only MIMIC the greatness of their father, the two former died like MOROSE MULES, when *Constantius* became the owner.

44. Julian .... MEDIATE.

Zara has a *Jewel in* her hand, presenting to some courtiers to MEDIATE with the King to procure her ransom.

25 Jovian .... MADAM.
Died in .... MADEIRA.

Ariel was so *Jovial* a MADAM, that she died in drinking MADEIRA.

FRENCH KINGS.

No.	Names.	Dates.	Symbols.	Technical Words.
1	Pepin, sirnamed the Little	751	*Ate* -	COLT
2	Charlemagne (and Carloman, who reigned only 4 years - -	768	-	COY VIEW.
		-	*Ino*	EAR
	He was proclaimed Emperor of the West	800	-	ABYSS
3	Lewis, sirn[d]. Le debonnairre, or Pious - Also Emperor of the West.	814	*Guy*	WAITER
4	Charles, sirn[d]. Le Chauve or Bald - -	840	-	BEARS
	He became Emperor of the West in -	875	*Roe* -	WEAKLY
5	Lewis II. sirn[d]. Le Begue, or Stammerer, King of France only -	877	*Leo* -	BACK
6	Lewis III. and Carloman	879	-	BAKE A PIE
	The former reigned to	882	-	BABOON
	The latter do. -	883	-	BY A BOG
	When Charles le Gros, Emp[r]. of the West became possessed of all the dominions of Charlemagne in	884	*Ida* -	BOWER
7	Eudes, King of France only	888	*Oak* -	BOOBY BOY
8	Charles III. sir[d]. the simple	898	*Obi* -	BUY A PEW
9	Rodolph - .	923	*Ape* -	FANG
10	Lewis IV. sirn[d]. Outremer	936	*Atys* -	FAMED
11	Lothaire - -	954	*Equity* -	FOOLERY
12	Lewis V. sir[d]. Le Faineant	986	*Autonoe*	IF I WED
13	Hugh Capet - -	987	*Time* -	UPAWEEK
14	Robert I. sir[d]. the Wise	996	*Equery*	PIPED

No.	Name.	Dates.	Symbols.	Technical Words.
15	*Henry I. - -	10,31	*Atyla* -	GATE
16	Philip I. sir^{d}. L'Amoreux Son of Henry.	10,60	*Tuova* -	IDEAS
17	Lewis VI. sir^{d}. Le Gros Son of Philip.	1,108	*Tcuca* -	SOB
18	Lewis VII. sir^{d}. Le Jeune Son of Lewis VI.	1,137	*Toby* -	SMOKE
19	Philip II. sir^{d}. Augustus Son of Lewis VII.	1,180	*Tupia* -	TUBS
20	Lewis VIII. sir^{d}. Le Lyon	1,223	*Eneas* -	HANG
21	Lewis IX. sirn^{d}. LeSaint	1,226	*Natio* -	HAND
22	Philip III. sir^{d}. Le Hardie	1,270	*Noah* -	ANY CAUSE
23	Philip IV. sirn^{d}. Le Fair, or Le Belle -	1,285	*Hygeia*	UNABLE
24	Lewis X. - - Son of Philip. His son John was proclaimed as King John I. but he died when he was only 3 weeks old.	1,314	*Hero* -	GUITAR
25	Philip V. sirn^{d}. Le Long Brother to Lewis.	1,316	*Hyale* -	MOTIVE
26	Charles IV. sir^{d}. Le Fair Brother to Philip.	1.321	*Naiad* -	MOUNT
27	Philip VI. (of Valois), sirnamed the Fortunate	1,328	*Inca* -	GNAW
28	John II. - - Son to Philip—Died in London.	1,351	*Hebe* -	EAGLET
29	Charles V. sirn^{d} the Wise Son to John.	1,364	*Hope* -	MADEIRA

* From Henry I. the One thousand is omitted.

No.	Name.	Dates.	Symbols.	Technical Words.
30	Charles VI. sir^{d}. Beloved Son to Charles V.	1,380	*Egeus*	- GIBES
31	Charles VII. sir^{d}. Victorious Son of Charles VI.	1,422	*Muta*	- RHINO
32	Lewis XI. - -	1,461	*Egeon*	- RIVET
33	Charles VIII. - Son of Lewis.	1,483	*Gama*	- ROW ME
34	Lewis XII. - - Cousin to Charles.	1,498	*Maria*	REPAY A BOY
35	Francis I. - -	1,515	*Milo*	- LATELY
36	Henry II. - -	1,547	*Medea*	- LARK
37	Francis II. - -	1,559	*Egica*	- LAY ALOOF
38	Charles IX. - -	1,560	*Mab*	- ELVES
39	Henry III. - - Brother to Charles, last of the Valois family.	1,574	*Gopiæ*	LUCRE
40	Henry IV. sir^{d}. the Great 22d Cousin to Henry III. and first of the Bourbon family.	1589	*Iris*	- JEW PAY
41	Lewis XIII. -	1,610	*Erato*	- DATES
42	Lewis XIV. - Son of Lewis XIII.	1,643	*Urania*	- VIRAGO
43	Lewis XV. . Grandson of Lewis XIV.	1,715	*Argo*	- ACUTELY
44	Lewis XVI. - Grandson of Lewis XV.	1,771	*Zara*	- OCCUR
	Put to Death Jan. 21	1,793		- KEEP ME
45	Napoleon-Consul Dec. 25,	1,799		- CAP A PEE
	Ditto, for Life, Aug. 6,	1,802	*Ariel*	BASIN
	Emperor - Aug. 9,	1,804		- BOXER

ASSOCIATIONS.

1 Pepin sirnamed the Little. .... COLT.

Ate is *Peeping* at a *Little* COLT.

2 Charlemagne and Carloman. - COY VIEW.
Carloman, reigned 4 years - EAR.
Charlemagne made Emperor - ABYSS.

Ino threw a *Chariot* in the *Main*, and then began a *Carrolling* to a *Man* in his EAR, as he was taking a COY VIEW of it, in the ABYSS.

3 Lewis le Debonnaire, or Pious - WAITER.

Guy gave a *Louis* in a *Debonnaire* manner to a *Pious* WAITER.

4 Charles the Bald. ..... BEARS.
He became Emperor of the West WEAKLY.

The Roe is quite *Bald* drawing a *Chariot* full of BEARS, that are very WEAKLY in the *Waist*.

5 Lewis II. sirnamed Le Begue. .... BACK.

Leo is *Too Loose* (in the centre of the floor), with a *Beggar* on his BACK.

6 Lewis III. and Carloman. - BAKE A PIE.
Lewis III. died ..... BABOON.
Carloman ditto ..... BY A BOG.

When Charles le Gros, became Emperor. BOWER.

On Mount Ida Paris gave 3 *Louis*'s to the *Care* of a *low man* that he might BAKE A PIE for a BABOON that went BY A BOG to draw a *Chariot* full of *Grouse* to a BOWER.

7 Eudes ... ... BOOBY BOY.

In the Oak there is a *New Dress* hanging up to dry for a BOOBY BOY.

8 Charles III. sirnamed the Simple. BUY A PEW.

Obi, or rather Three-fingered Jack; had 3 *Chariots*,

but he was so *Simple* as to sell them to BUY A PEW with the money.

9 Rodolph. .... FANG.

The Ape is taking a *Rod off* his keeper, which he held by his FANG.

10 Lewis IV. .... FAMED.

Atys is *Loose in a Fort,* which is much FAMED.

11 Lothaire. .... PLAYER.

Equity has on her head such a *Lot* of *Hair,* that she looks like a PLAYER.

12 Lewis V. ..... IF I WED.

Autonoe put a *Louis* on each finger of one hand (5 *Louis's)* saying IF I WED any person, I must first bribe him by my wealth.

13 Hugh Capet ..... UP A WEEK.

Time has a *Yew,* he says he can *Keep it* UP A WEEK in his hand, without being tired.

14 Robert I. sirnamed the Wise. PIPED.

The Equery was attacked by a *Robber,* but he was so *Wise,* that he PIPED aloud until he frightened him away.

15 Henry 1.* .... GATE.

Atyla is putting a *Hen* upon a GATE.

16 Philip 1. sirnamed the Amorous. IDEAS.

Tuova will give you a *Fillip,* if you have *Amorous* IDEAS.

17 Lewis VIth sirnamed Le Gros. SOB.

Teuca lost 6 *Louis's,* and like a *Goose,* she does nothing but SOB after them.

18 Lewis VIIth‡ .... SMOKE.

* From Henry I. the One thousand is omitted.

‡ After the 7th Lewis, the figures marking the order of *their* names will be made into words—thus "BOY *Loose*" is the 8th Lewis—the same regulation applies to the Charles's after the fourth.

Toby gives a *Louis* every day in the week (7 Louis's) to a person to drive away the SMOKE from him.

19 Philip II. .... TUBS.

Tupia is pouring *Two* cans of *Flip* into some TUBS.

20 Lewis VIII. sirnamed the Lyon HANG.

Eneas is giving a BOY a *Louis* to HANG up a *Lion* for him.

21 Lewis IX. sirnamed the Saint. ..... HAND.

Natio gave for a PIE, a *Louis* to HAND to a *Saint.*

22 Philip III. sirnamed le Hardie. ANY CAUSE.

Noah was so *Hardy* as to give a *Fillip* to each of his sons (3) without ANY CAUSE.

23 Philip IV. sirnamed the Fair. UNABLE.

Hygeia drank 4 cans of *Flip* at a *Fair,* which made her UNABLE to walk.

24 Lewis X. .... GUITAR.

His son John proclaimed after his death.

Hero TIES a *Loose* GUITAR round her waist to *Join* her lover.

25 Philip V. sirnamed the Long. MOTIVE.

Hyale held 5 Cans of *Flip* (1 on each finger of her hand) without any apparent MOTIVE for doing so.

26 Charles IV. sirnamed the Fair. MOUNT.

The Naiad is putting a *Chariot in a Fort,* to be ready to MOUNT when it is a *Fair* day.

27 Philip VI. sirnamed the Fortunate. GNAW.

The Inca was so *Fortunate* as to take 6 cans of *Flip,* from a bin that some mice were endeavouring to GNAW through.

28 John II. .... EAGLET.

Hebe is going to *Join* 2 nests together, in each of which there is a young EAGLET.

29 Charles V. .... MADEIRA.

Hope is going to OIL a *Chariot*, as she intends to load it with MADEIRA.

30 Charles VIth. surnamed the Beloved. GIBES.

Egeus—the supposed loss of his *Beloved* Son made him DIE *Cheerless*, as he thought he could not bear the GIBES of his people.

31 Charles VIIth. ..... RHINO.

Muta has got some OAK *Chairs*, that cost a great deal of RHINO.

32 Lewis XIth. .... RIVET.

Egeon has a QUOIT *Loose* in his hands, which he is going to RIVET.

33 Charles VIII. .... ROW ME.

Gama (the Navigator) says, "I should BE *Cheerless*, If I could get nobody to ROW ME."

34 Lewis XII. ..... REPAY A BOY.

Maria is giving a TINY *Louis* to REPAY A BOY for attending her.

35 Francis I. .... LATELY.

Milo, *Fancies* that as a Wrestler he fell off LATELY.

36. Henry II. .... LARK.

Medea by her magical power made 2 *Hens* sing like a LARK.

Francis II. .... LAY ALOOF.

Egica gave 2 *Francs* to his attendants to LAY ALOOF whilst he destroyed Fasilia.

38 Charles IX. .... ELVES.

Mab is climbing UP a *Chariot* to see her ELVES.

39 Henry IIId. .... LUCRE.

GOPIÆ, have 3 valuable *Hens*, that they would not part with for any LUCRE.

40 Henry IVth. surnamed the Great. JEW PAY

Iris bought *Four great Hens* (1 she put at each corner

of the Square that she is in) but she made a JEW PAY for them.

41 Lewis XIII. .... DATES.

Erato her TIME *Loses* in collecting DATES.

Lewis XIVth. .... VIRAGO.

Urania has got a QUEER *Louis*, that she got from a VIRAGO.

43 Lewis XV. ..... ACUTELY.

In the ship Argo, there is a QUAIL *Loose*, that would suffer ACUTELY if confined.

44 Lewis XVI. .... OCCUR.

Put to death .... KEEP ME.

Zara TIED a *Louis* in her cap, fearful of what might OCCUR to her in captivity, she says, I wish to have something to KEEP ME.

45 Napoleon Bonaparte made First Consul. CAP-A-PEE.

Do. ..... Consul for life. BASIN.

Do. ..... Emperor. BOXER.

Ariel has *A Pole in* her hand, going to take a *Bonny part* in a fray, for which she is armed CAP-A-PEE, with a "BASIN" for a helmet, like Don Quixotte, the famous BOXER.

KINGS AND EMPERORS OF GERMANY.

After Charlemagne and Lewis le Debonnaire were Emperors of the West, the kingdom of Germany commenced under Lewis I.—Lotharius being then Emperor of the West, and Charles le Chauve King of France.

KINGS.

No.	Kings.	Dates.	Symbols.	Technical Words.
1	Lewis I. - - -	843	*Ate* -	Broom
2	Lewis II. - -	876	*Ino* -	Waked
	Died in - - -	881	-	Abbot
	(Interregnum until the reign of Arnolph)			
3	Arnolph - - -	888	*Guy* -	Bow away
4	Lewis III. - -	900	*Roe* -	Foxes

EMPERORS.

5	Conrad I. - -	912	*Leo* -	Often
6	Henry I. sirn^{d}. Bird-catcher	920	*Ida* -	Fens
7	Otho I. sirnamed the Great	936	*Oak* -	Pagoda
8	Otho II. sirn^{d}. the Bloody	973	*Obi* -	Face'm
9	Otho III. sirnamed the Red	983	*Ape* -	Pie bag
10	*Henry II. sirn^{d}. the Lame	100,2	*Atys* -	Hay
11	Conrad II. sirnamed the Salique - -	1,024	-	Hair
	Burgundy was bequeathed by Rodolph III. to Conrad in -	1,032	*Equity* -	Gin
12	†Henry III. sir^{d}. the Black	10,39	*Autonoe*	Gap
13	Henry IV. - -	10,56	*Time* -	Old
14	Henry V. - -	1,106	*Equery* -	Son
15	Lothario, sir^{d}. the Saxon	1,125	*Atyla* -	Shoal
16	Conrad III. - -	1,138	*Tuova* -	Tomb

* From Henry II. downward, the 1 thousand is omitted.

† The remainder of the Henrys have the figures that denote the order of their names made into words.

No.	Emperors.	Dates.	Symbols.	Technical Words.
17	Frederick, sir^{d}. Barbarossa	1,152	*Teuca*	SLAIN
18	Henry VI. sir^{d}. Asper	1,190	*Toby*	TIPSY
19	Philip	1,198	*Tupia*	TO A PEW
20	Otho IV.	1,208	-	HIS WAY
	Frederick II. joined him in	1,212	*Eneas*	NOTION
	And reigned 6 years	-	-	DIE
21	William I.	1,250	-	HAILS
	Reigned until	1,255	-	HILL
	After which an interregnum of 17 years	-	*Natio*	QUAKE
22	Rodolph of Halesburgh, first of the House of Austria	1,273	*Noah*	INCOG
23	Adolphus of Nassau	1,291	*Hygeia*	HAFT
24	Albert	1,298	*Hero*	IN A PEW
	In 1308—An interregnum of 1 year.			
25	Henry VII. of Luxemburgh	1,309	*Hyale*	GASP
	Said to be poisoned by taking the Host.			
26	Lewis IV. sirnamed the Bavarian, and Frederick of Austria	1,314	*Naiad*	METEOR
27	Charles IV. of Luxemburgh	1,347	*Inca*	GREECE
28	Wenceslaus	1,378	*Hebe*	MACAW
29	Rupert, Palatine of the Rhine	1,400	*Hope*	ROSES
30	Tossus (reigned 5 months)	1,410	*Egeus*	RATS
31	Sigismund, King of Hungary	1,410	*Muta*	ARTS

No.	Emperors.	Dates.	Symbols.	Technical Words.
32	Albert II. of Austria	1,438	*Egeon* .	Rag boy
33	Frederick III. -	1,440	*Gama* -	Roars
34	Maximilian I. -	1,493	*Maria* -	Refuge
35	Charles V. - -	1,519	*Milo* -	Late up
36	Ferdinand I. - -	1,558	*Medea* -	Elbow
37	Maximilian II. -	1,564	*Egica* -	Lover
38	Rodolph II. - -	1,576	*Mab* -	Alcove
39	Matthias - -	1,612	*Gopiæ* -	Ovation
40	Ferdinand II. -	1,619	*Iris* -	Ivy a top
41	Ferdinand III. -	1,637	*Erato* -	Do make
42	Leopold - - -	1,658	*Urania* -	Deal away
43	Joseph I. - -	1,705	*Argo* -	Cause ale
44	Charles VI. - -	1,711	*Zara* -	Acquit
45	Charles VII.	1,741	*Ariel* -	Cart
46	Francis I. - -	1,745	*Zaida* -	Creole
47	Joseph II. - -	1,765	*Yarico* -	Civil
48	Leopold II. - -	1,790	*Arab* -	Caps
49	Francis II. - -	1,792	*Europa* -	Capon

He took the title of Emperor of Austria in 1804.

ASSOCIATIONS.

GERMAN KINGS.

1 Lewis I. .... Broom.

Ate gave a *Louis* for a Broom, to attack people.

2 Lewis II. .... Waked.

Died in .... Abbot.

Ino bequeathed *Two Louis's* that she might be Waked by an Abbot.

3 Arnolph .... BOWAWAY.

Guy took *Yarn off* a man, for taking his BOWAWAY.

4 Lewis III. .... FOXES.

The Roe was attacked by *Three Loose* FOXES.

5 Conrad I. .... OFTEN.

Leo looks about for his *Comrade* OFTEN.

6 Henry I. sirnamed Bird Catcher. .... FENS.

On Mount Ida, there is a *Hen* that was caught by a *Bird Catcher*, in some FENS.

7 Otho I. sirnamed the Great .... PAGODA.

In the Oak, there is a man who swore a great *Oath* that he would make a PAGODA of it.

8 Otho II. .... FACE'M.

Three fingered Jack swore *Two Oaths* that he would attack any person that would FACE'M.

9 Otho III. sirnamed the Red .... PIEBAG.

The Keeper of the Ape swore *Three Oaths*, that he would destroy him for running away with his *Red* PIEBAG.

10 Henry II. sirnamed the Lame .... HAY.

Atys is putting *Two lame Hens* in some HAY.

11 Conrad II. sirnamed the Salique .... HAIR.
Burgundy was bequeathed in .... GIN.

Equity has *Two Comrades* that have very *Sleek* HAIR, occasioned by drinking *Burgundy* and GIN.

12 Henry III. sirnamed the Black .... GAP.

Autonoe is putting *Three Black Hens* in a GAP.

13 Henry IV. .... OLD.

Time is putting in an AREA, *Hens* that are very OLD.

14 Henry V. .... SOD.

The Equery is going to LAY *Hens* on a SOD.

15 Lothario, sirnamed the Saxon ..... SHOAL.

Atyla is putting a *Lot* of *hair* in some *Sacks on* a SHOAL.

16 Conrad III. .... TOMB.

Tuova is burying his 3 *Comrades* in a TOMB.

17 Frederick, sirnamed Barbarossa ... SLAIN.

Teuca is *Afraid a rick* of hay will be *Barbarously* thrown upon her, and that she will be SLAIN.

18 Henry VI. sirnamed Asper. ... TIPSY

Toby is putting on some IVY, *Hens* with *A spear*, as he is very TIPSY.

19 Philip ... ... TOAPEW.

Tupia is carrying some *Flip* TOAPEW.

20 Otho IV. ... ... HISWAY.}
Frederick II. joined him in ... NOTION.}
He reigned 6 years ... ... DIE.

Eneas swore 4 *Oaths* that HIS WAY should not be impeded, as he was *Too free a rake*; for his NOTION was to DIE, rather than be enslaved.

21 William I. .... HAILS.}
Reigned until .... HILL.}
Interregnum ... ... QUAKE.

Natio has a *Willow* in her hand, but it HAILS so violently on her as she is climbing a HILL with it, that she begins to QUAKE with fear.

22 Rodolph, first of the House of Austria. - INCOG.

Noah *Rodeoff* from his sons in an *Austere* manner, determined to live INCOG the remainder of his days.

23 Adolphus of Nassau ... ... HAFT.

Hygeia killed *A dolphin* with the HAFT of *A Saw*.

24 Albert ... ... INAPEW.

Hero is putting Leander's *Halbert* INAPEW.

25 Henry VII. .... GASP.

Hyale has some COY *Hens* that GASP for drink.

26 Lewis IV. and Frederick of Austria . METEOR.

The Naiad gave *Four Louis's* to protect her barn, as she was *Afraid a rick* of *Straw* would be burnt by a METEOR.

27 Charles IV. .... GREECE.

The Inca has received *Four Chariots* from GREECE.

28 Wenceslaus .... MACAW.

Hebe *Minces laws,* like a great MACAW.

29 Rupert .... ROSES.

Hope is giving a *Roper* some ROSES.

30 Tossus .... RATS.

Egeus will *Toss us* like so many RATS.

31 SIGISMUND .... ARTS.

Muta, whenever she was at *Sieges, moaned* for the injury done to the fine ARTS.

32 Albert II. .... RAG BOY.

Egeon got *Two Halberts* from a RAG BOY.

33 Frederick III. .... ROARS.

Gama *Fired a rick* of hay in *Three* places, and then ROARS out for help.

34 Maximilian I. .... REFUGE.

Maria's distress *Makes a Million* of people anxious to give her REFUGE.

35 Charles V. .... LATE UP.

MILO is drinking ALE *Cheerless,* as he has been very LATE UP.

36 Ferdinand I. .... ELBOW.

Medea says 1 *Bird in hand* is "worth two on the" ELBOW.

37 Maximilian II. .... LOVER.

Egica had *Two Maxims, ill* suited to a King or a LOVER.

38 Rodolph II. .... ALCOVE.

Mab took *Two Rods off* an ALCOVE.

39 Matthias ... . OVATION.

Gopiæ are placed on a *Matt high as* a throne, in their yearly OVATION.

40 Ferdinand II. .... IVY A TOP.

Iris has *Two Birds in hand*, which she is going to place in some IVY A TOP of their cage—or she is afraid they will DIE A TOP of their cage.

41 Ferdinand III. .... DO MAKE.

Erato has *Three Birds in hand*, that DO MAKE a great noise.

42 Leopold .... DEAL AWAY.

Urania would *Lay up old* globes, as she did not like to give a DEAL AWAY.

43 Joseph I. .... CAUSE ALE.

Jason in the Argo to keep his *Jaw safe*, used to CAUSE ALE to be distributed among his sailors.

44 Charles VI. .... ACQUIT.

Zara is every DAY *Cheerless* until her enemies ACQUIT her.

45 Charles VII. .... CART.

Ariel is putting OAK *Chairs* in a CART.

46 Francis I. .... CREOLE.

Zaida *Fancies* her lover above all others, although he is blacker than a CREOLE.

47 Joseph II. .... CIVIL.

Yarico thought that the best way to keep her *Two Jaws safe* was to be CIVIL.

48 Leopold II. .... CAPS.

The Arab intends *To Lay up old* CAPS for his children.

49 Francis II. .... CAPON.

Europa gave *Two Francs* for a CAPON.

KINGS OF SCOTLAND.

Fergus, the first king, began to reign 328 years before Christ. The following order commences from the year 1004.

No.	Names.	Dates of Accession.	Symbols.	Technical Words.
1*	Malcolm II. The 84th monarch.	100,4	*Ate*	RYE
2	Duncan Grandson to Malcolm.	10,34	*Ino*	MIRE
3	Macbeth, Tyrant Grandson to Malcolm II.	10,40	*Guy*	EARS
4	Malcolm III. sir^{d}. Canmore Son of Duncan.	10,57	*Roe*	LEAKY
5	Donald VII. sirnamed Bane Brother of Malcolm.	10,93	*Leo*	PIG
6	Duncan II. Natural son to Malcolm III.	10,94	*Ida*	FRAY
	Donald reinstated, in	10,95	-	FOOL
7	Edgar Son of Malcolm III.	10,97	*Oak*	PIKE
8	Alexander Brother to Edgar.	1,107	*Obi*	SAUCY
9	David Brother to Edgar.	1,124	*Ape*	SHARE
10	Malcolm IV. Grands^{n}. to Malcolm III.	1,153	*Atys*	ASYLUM
11	William Brother to Malcolm IV.	1,165	*Equity*	SADLY
12	Alexander II. Son to William.	1,214	*Autonoe*	ENTRY

* The One thousand is omitted throughout.

No.	Names.	Dates of Accession.	Symbols.	Technical Words.
13	Alexander III. -	1,249	-	HARP
	Son to Alexander II.		*Time* -	
	Reigned to -	1,285	-	UNABLE
	An interregnum of 7 years		- -	KEY
14	John Baliol -	1,292		IN FUN
	Great Grandson of David I.		*Equery*	
	From the year -	1,301	-	GUEST
	An interregnum of 5 years		-	ALE
15	Robert I. -	1,306	*Atyla* -	AMUSED
	Grandson of David I.			
16	David II. son to Robert, and Edward -	1,329	*Tuova* -	GONAP
17	Robert II. -	1,370	*Teuca* -	MAKES
	The first of the Stuarts, nephew to David.			
18	Robert III. or John Robert	1,390	*Toby* -	GIPSEY
	Son to Robert.			
19	James I. -	1,423	*Tupia* -	RING
	Son to Robert.			
20	James II. -	1,437	*Eneas* -	REMAKE
	Son of James I.			
21	James III. -	1,460	*Natio* -	REDSEA
	Son of James II.			
22	James IV. -	1,488	*Noah* -	RABBI
	Son of James III.			
23	James V. -	1,513	*Hygeia* -	LETGO
	Son of James IV.			
24	Mary Stuart -	1,542	*Hero* -	JOURNEY
	Daughter of James V.			

No.	Names.	A.D.	Symbols.	Technical Words.
25	James VI. -	1,567	-	OLD OAK
	Son of Mary			
	He was crowned King of England, as James I. in .	1,603	-	DISMAY
	His successors were Kings of England and Scotland, until the Union, which was signed July 22	1,706	*Hyale* -	COAXED

ASSOCIATIONS.

1 Malcolm II. ... ... RYE

Ate is carrying *Two* pails of *Milk home* to boil with some RYE.

2 Duncan ... ... MIRE.

Ino is riding on a *Donkey* through the MIRE.

3 Macbeth. ... ... EARS.

Guy intends to *Make* a *bath* to reach no higher than his EARS.

4 Malcolm III. sirname Canmore. ... LEAKY.

The Roe carried *Three* Cans of *Milk home*, but it was forced to go back for one *Can more*, as one of them was LEAKY.

5 Donalbain. ... ... PIG.

Leo is eating a *Dunold bean*, which he seized from a PIG.

6 Duncan II. ... ... FRAY.

Donald reinstated. ... ... FOOL.

On Mount Ida there are *Two Donkeys* in a FRAY with each other, as one of them was a quarrelsome *Dun old* FOOL.

7 Edgar. ... ... PIKE.

In the *Oak* there is a *Head garb* on the top of a PIKE.

8 Alexander. ... ... SAUCY.

Three-fingered Jack thinks himself to be as great as *Alexander*, which makes him so SAUCY.

9 David. ... ... SHARE.

The Ape will neither *Divide* nor SHARE his food with any one.

10 Malcolm IV. ... ... ASYLUM.

Atys orders *Four* cans of *Milk home* to his ASYLUM.

11 William. ... ... SADLY.

Equity has *One Willow* in her hand, as she is afflicted SADLY.

12 Alexander II. ... ... ENTRY.

Autonoe's *Two* kegs of *Ale leaks yonder* in an ENTRY.

13 Alexander III. ... ... HARP.

Reigned to ... ... UNABLE.
Interregnum. ... ... KEY.

Time hides *Three Old Eggs under* a HARP, as he is UNABLE to find a KEY to lock them up.

14 John Baliol. ... ... INFUN.
Reigned to ... ... GUEST.
Interregnun of Years ... ... ALE.

The Equery is going to *Join Bail*, INFUN, with a GUEST, for some ALE.

15 Robert. ... ... AMUSED.

Atyla was attacked by a *Robber*, but he AMUSED him until he escaped.

16 David II. ... ... GO NAP.

Tuova was *Too Devoid* of negligence to GO NAP, when he ought to be awake.

17 Robert II. first of the Stewarts ... MAKES.

Teuca is attacked by *Two Robbers*, but her *Steward* coming to her assistance, fights so bravely, that he MAKES them take to flight.

18 Robert III. ... ... GIPSEY.

Toby is drinking in company with *Three Robbers* and a GIPSEY.

19 James I. ... ... RING.

Tupia has beautiful *Gems* on his RING.

20*James II. ... .. REMAKE.

Eneas had 2 *Gems* sent to him, but as he did not like their Shape, he intends to REMAKE them.

21 James III. ... ... RED SEA.

Natio has some GAY *Gems* that were found in the RED SEA.

24 James IV. .... RABBI.

Noah is putting in his EAR, *Gems* that he got from a RABBI.

23 James V. .... LET GO.

Hygeia is going to OIL *Gems* of such value, that she would not LET GO them out of her own hands.

24 Mary Stuart. .... JOURNEY.

Hero had a *Merry Steward* to accompany her whenever she went a JOURNEY.

25 James VI. .... OLD OAK
Made King of England .. DISMAY.
The Union with England .. COAXED.

Hyale put on some IVY *Gems* that she found in an OLD OAK, as she was in great DISMAY, lest they should be COAXED from her.

* After James II. the number denoting the order of the James's are put into words, which words are in large Capitals.

LORD LIEUTENANTS OF IRELAND,

Since the Scottish Union.

No.	Names.	Dates.	Symbols.	Technical Words.
1	Thomas, Earl of Pembroke, April 17, ...	170,7	*Ate*	Oak
2	Thomas, Lord Wharton, November 25, ...	170,8	*Ino*	Away
3	James, Duke of Ormond, July 3, ...	17,11	*Guy*	Quite
4	Charles, Duke of Shrewsbury, October 27, ...	17,13	*Roe*	Tame
5	Charles, Duke of Bolton, August 7, ...	17,17	*Leo*	Quake
6	Charles, Duke of Grafton, August 28, ...	17,21	*Ida*	Hut
7	John, Lord Carteret, October 22, ...	17,24	*Oak*	Hare
8	Lionel, Duke of Dorset September 11, ...	17,31	*Obi*	Meat
9	William, Duke of Devonshire, September 7, ...	17,37	*Ape*	Mice
10	Philip. Earl of Chesterfield, August 31, ...	17,45	*Atys*	Earl
11	William, Earl of Harrington, September 13, ...	17,47	*Equity*	Rake
12	Lionel, Duke of Dorset, September 19, ...	17,51	*Autonoe* ..	Jot
13	William, Marquis of Hartington, May 5, ...	17,55	*Time*	Lily
14	John, Duke of Bedford, September 25, ...	17,57	*Equery*	Lake
15	Dunk, Earl of Halifax, October 6, ...	17,61	*Atyla*	Ideot
16	Hugh, Earl of Northumberland, September 22, ...	17,63	*Tuova*	Dog

No.	Names.	Dates.	Symbols.	Technical Words
17	Lord Viscount Weymouth, June 5, ...	17,65	*Teuca*	Veil
18	Francis, Earl of Hertford, October 18, ...	17,65	*Toby*	Idle
19	Earl of Bristol, October 6, ...	17,66	*Tupia*	Dad
20	George, Viscount Townsend, (the first who resided), August 9,	17,67	*Eneas*	Dace
21	Simon, Earl of Harcourt, October 9, ...	17,72	*Natio*	Ocean
22	John, Earl of Buckinghamshire, November 2, ...	17,76	*Noah*	Kid
23	Frederick, Earl of Carlisle, October 13, ...	17,80	*Hygeia*	Base
24	William, Duke of Portland, April 10, ...	17,82	*Hero*	Wine
25	George, Earl Temple (afterwards Marq. of Buckingham), July 31,	17,82	*Hyale*	Bone
26	Robert, Earl of Northington, April 20, ...	17,83	*Naiad*	Wig
27	Charles, Duke of Rutland, Feb. 14, ...	17,84	*Inca*	Bury
28	George, Marquis of Buckingham, December 16, ...	17,87	*Hebe*	Week
29	John, Earl of Westmoreland, December, 16, ...	17,89	*Hope*	Weep
30	Earl of Fitzwilliam, December 10, ...	17,94	*Egeus*	Fear
31	Earl Camden, March 11, ...	17,95	*Muta*	Pool
32	Marquis Cornwallis, June 20, ...	17,98	*Egeon*	Paw
33	Earl Hardwicke, Feb. 23, ...	1,801	*Gama*	West
34	Duke of Bedford, Feb. 12, ...	1,806	*Maria*	Abused
35	Duke of Richmond, April 19, ...	1,807	*Milo*	Bask

ASSOCIATIONS.

The Lord Lieutenants, from Earl Pembroke to Earl Cornwallis, being within the same century, have the 17. denoting 1700, omitted in the mnemonical words, the word OAK being the character for 7, the 1700 conjoined makes 1707.

1. Thomas Earl Pembroke ... OAK.

Ate is putting her *Thumbs* on a *Pembroke* table made of OAK.

2. Thomas Lord Wharton. ... AWAY.

Ino's *Thumbs* have each a *Wart on*, which she wishes were AWAY.

3. James Duke of Ormond ... QUITE.

Guy threw some *Gems O'er a Mound*, QUITE out of sight.

4. Charles Duke of Shrewsbury .. TAME.

The Roe is compelled to jump over *Chairs* in a *Shrubbery* to make it TAME.

5. Charles Duke of Bolton. ... QUAKE

Leo is quite *Cheerless*, as there is a large *Bolt on* him, which makes him QUAKE.

6. Charles Duke of Grafton ... HUT.

Mount Ida looks quite *Cheerless*, as there is not a tree to *Graft on*, nor a HUT to live in.

7. John Lord Carteret ... HARE.

In the Oak *John* the *Carter* is eating a HARE.

8. Lionel Duke of Dorset. ... MEAT.

Three-fingered Jack made a *Lion ill* as he a *Door set* on him when he was eating his MEAT.

9. William Duke of Devonshire ... MICE.

The Ape is *Willing* to put a *Dove on a Chair* to catch some MICE for him.

10 Philip Earl of Chesterfield ..... EARL.

Atys drank some *Flip* before he *Chased a hare in a field*, belonging to an EARL.

11 William Earl of Harrington ..... RAKE.

Equity reached some sweet *William* and a *Herring down* from her cupboard with a RAKE.

12 Lionel Duke of Dorset ..... JOT.

Autonoe is *Lying ill*, and *Durst* not stir one JOT.

13 William Marquis of Hartington ..... LILY.

Time has a *Willow* in his hand, driving a *Hart in town*, which is as white as a LILY.

14 John Duke of Bedford ..... LAKE.

The Equery is going to *Join* a plank across a *Bad ford* that ran from a LAKE.

15 Dunk Earl of Halifax ..... IDEOT.

Atyla got *Drunk*, and then went to *Haul flax* like an IDEOT.

16 Hugh Earl of Northumberland ..... DOG.

Tuova has got a *Huge Northumberland* DOG.

17 Lord Viscount Weymouth ..... VEIL.

Teuca has got a *Wee mouth*, which she covers with her VEIL.

18 Francis Earl of Hertford ..... IDLE.

Toby *Fancies* that he cannot in his *Heart afford* to be otherwise than IDLE.

19 Earl of Bristol .... DAD.

Tupia is giving a *Bristle* to his DAD.

20 George Viscount Townsend .... DACE.

Eneas is going to *Gorge* at a feast at the *Town's end*, off a DACE—or with a DUKE.

21 Simon Earl of Harcourt ..... OCEAN.

Natio is eating *Salmon* in *Her court*; it was caught in the OCEAN.

22 John Earl of Buckinghamshire ..... KID.

Noah is attempting to *Join* a *Buck and a ham* on table, as he is going to *Shear* a KID.

23 Frederick Earl of Carlisle ..... BASE.

Hygeia is *Afraid a rick* of hay would on a *Car lie ill* at the BASE of it.

24 William Duke of Portland ..... WINE.

Hero is not *Willing* to let *Port, land* near her house, as she hates WINE.

25 George Earl Temple ... ... BONE.

Hyale expected to *Gorge* at a *Temple*, but she got nothing but a BONE.

26 Robert Earl of Northington .... WIG.

The Naiad was attacked by a *Robber*, who left *Nothing on* her but a WIG.

27 Charles Duke of Rutland ..... BURY.

The Inca's *Chariot* stuck fast in a *Rut i' the land*, almost deep enough to BURY it.

28 George Marquis of Buckingham .... WEEK.

Hebe can *Gorge* on a *Buck* and a *ham* every day in the WEEK.

29 John Earl of Westmoreland ..... WEEP.

Hope says that if we *Waste more land* than we ought, she will make us WEEP.

30 Earl of Fitzwilliam .... FEAR.

Egeus, when he lost his son, fell into *Fits* under a *Willow*, with FEAR.

31 Earl Cambden .... POOL.

Muta was *Crammed in* a POOL.

32 Marquis Cornwallis ..... PAW.

Egeon puts *Corn* in his *wallets*, with his PAW.

33 Earl Hardwicke ---- ---- WEST.

Gama had many a *Hard week* when he went to the WEST.

34 Duke of Bedford .... ABUSED

Maria cannot a *Bed afford,* as she has been much ABUSED.

35 Duke of Richmond .... BASK

Milo lay on a *Rich mound,* to BASK in the sun.

These Associations for the English, Roman, French, German, and Scottish Monarchs, will be sufficient to illustrate the manner of applying the system to the Chronological Tables of other countries—as the Author has already remarked that general historical events will be differently arranged; and without using symbols, or grotesque imagery, the students are requested to apply themselves for the present to these or similar Tables, until the number of this work which is to be applied to History comes out, that they may judge whether his arrangement for that branch of study be not better, than the application to it, of the plan adopted in Chronology.

The following associations for a few metals and other bodies, are given to direct the learners how to proceed in other Tables:—

Table shewing the number of Ounces Avoirdupois, in a Cubic Foot of some Metals, and other Bodies.

[From Nicholson's Tables.]

	Bodies.	Ounces.	Symbols.	Technical Words
1	Pure Gold cast - - -	19258	*Ate* -	SPANIEL AWAY
2	Sea Water - - - -	1026	*Ino* -	SEASONED.
3	Standard Gold cast - -	17486	*Guy* -	SCREWED.
4	Zinc - - - - - -	7191	*Roe* -	CUT FOOT

No.	Bodies.	Ounces.	Symbols.	Technical Words.
5	Bismuth - - - - - -	9823	*Leo* -	PAWING
6	Pumice Stone - - -	914	*Ida* -	FFATURE
7	Heart of Oak - - -	1170	*Oak* -	STAKES
8	Rock Chrystal, from Madagascar - - - - -	2653	*Obi* -	INDULGE
9	Lime Stones - - - - -	1386	*Ape* -	SOMEBODY
10	Agate - - - - - - -	2590	*Atys* -	HELPS
11	Tallow - - - - - -	942	*Equity*	APRON
12	Green Glass - - - - -	2620	*Autonoe*	HEAVENS
13	Cast Iron - - - - - -	7207	*Time*	CHOOSE A KEY.
14	Cork - - - - - - -	240	*Equery*	HORSE
15	English Tin hammered	7299	*Atyla* -	CHAFF
16	Crude Platina in Grains	15602	*Tuova*	SLAVISH
17	Standard Silver in Coin	10391	*Teuca* -	ITS IMPIETY
18	Ruby - - - - - - -	4283	*Toby* -	RENEW ME
19	Mercury - - - - - -	13568	*Tupia*	TO A MILD BOY
20	Spermaceti - - - - -	943	*Eneas* -	FORAGE

ASSOCIATIONS.

1 Pure Gold cast .... SPANIEL AWAY.

Ate has some *Pure gold*, which she *cast* from her, to frighten a SPANIEL AWAY.

2 Sea Water .... SEASONED.

Ino, when she threw herself into the *Sea*, the *Water* SEASONED her.

3 Standard Gold cast .... SCREWED.

Guy's *Standard* is of *Gold*, which he would have *Cast* at the cow, only it was SCREWED down.

4 Zinc .... CUT FOOT.

The Roe is ready to *Sink*, as he has a very bad CUT FOOT.

5 Bismuth .... PAWING.

Leo was tied *By his mouth*, to keep him from PAWING us.

6 Pumice Stone .... FEATURE.

Mount Ida is covered with *Pumice stone*, which gave to it a new FEATURE.

7 Heart of Oak .... STAKES.

The *Oak* had the *Heart* of it, cut up for STAKES.

8 Rock Christal from Madagascar .... INDULGE.

Three fingered Jack is climbing a *Rock* of *Chrystal* as he is *Mad, gasconading* that he can INDULGE himself with a fine view.

9 Lime Stones. .... SOMEBODY.

The Ape is throwing *Lime stones* at SOMEBODY.

10 Agate .... HELPS.

Atys is on *A gate*, crying out that nobody HELPS his father.

11 Tallow .... APRON.

Equity has some *Tallow* in her APRON.

12 Green glass .... HEAVENS.

Autonoe is looking thro' a Lens made of *Green glass*, at the HEAVENS, praying for her son.

13 Cast iron .... CHUSE A KEY.

TIMES's Scythe is made of *Cast iron*; and he is going to CHOOSE A KEY of the same metal.

14 Cork .... HORSE.

The Equery is riding a *Cork* HORSE.

15 English tin hammered ..... CHAFF.

Atyla's Spear is made of *English tin*, which, when he *hammered* it, flew about like CHAFF.

16 Crude Platina in Grains ..... *SLAVISH.

Tuova is forced to eat *Curds* off a *plate in grains*, which he considers very SLAVISH.

17 Standard Silver in Coin ..... ITS IMPIETY.

Teuca is *Standing* on some *Silver in coin*, although ITS IMPIETY to do so.

18 Ruby .... RENEW ME.

TOBY has a *Ruby* nose, with drinking; which he says cannot now be altered, unless something should arise to "RENEW ME"—or he keeps his *Ruby* nose in a YARN BAG.†

19 Mercury .... TO A MILD BOY.

Tupia is giving *Mercury* TO A MILD BOY.

20 Spermaceti.

Eneas in seeing Troy in flames, cried out, *Spare my city*, and do not FORAGE it.

The SH in the word SLAVISH may be here used as 02, without being mistaken for *thousand*, as we cannot suppose that a foot of the metal would weigh 156,000 ounces; but if any fear should arise from its use, the word SLAVES IN, might be introduced, or many other words.

† YARN BAG —The y is here used as a vowel; it cannot be mistaken for 1 millio

MULTIPLICATION.

To arrange a plan for committing the multiplication table to memory, by any other mode than the usual one, may, by some people, be considered unnecessary, as being already sufficiently easy to acquire, without having recourse to mnemonical aids, but others view it as a most formidable task: many children, and even adults of excellent parts, find it extremely difficult to impress on their minds; it cannot be effected but by frequent repetitions, which generally consumes a considerable portion of time, that might be profitably employed in other studies. This, at an advanced period of life, by forgetting our juvenile exertions, we may not be so sensible of, as the table by habit has become so familiar to us, that we deem its early acquisition as being unattended with trouble, yet, in most cases, it is a work of some labour and pains—the author has had many applications made to him for a plan to assist the memory in it; the following plan, he thinks, will be found easy and effectual. They, whose memories are sufficiently tenacious without such aids, will, perhaps, reject it. It is only offered as an assistance to those, who think they stand in need of some helps, different from the common method.

It will be seen, by reference to the table, that this plan consists in making *mnemonical words* of the several products; which *words* are made into pictures, to be placed on the walls of an apartment, arranged as they are on the diagrams; the pictures may be cut out, or larger ones drawn from them, and actually pinned to the walls, or by gazing on them, and transferring their images to their respective localities, become by that means fixed;—by putting them upon the walls, children can very easily recollect them all, even before they leave the nursery; and afterwards by degrees to teach them the letters that represent the figures, the whole table will become familiar.

To place but one row of pictures on the wall at a time, and cause the learners to repeat them a few times before the second is put up, will be the best mode; and in the same manner, to act with the remainder; and to let them be well acquainted with one wall, before they attempt the second, &c.

They must also distinctly mark the order of their figures, that go across each wall, and down the sides; indeed that ought to be done before the pictures are placed: If the figures were actually put up, they would be found useful.

	First Wall.				
	2	3	4	5	6
2	4 Roe	6 Eve	8 Bee	10 Oats	12 Queen
3	6 Ivy	9 Ape	12 Tony	15 Quail	18 Tub
4	8 Boy	12 Tin	16 Tuova	20 Nose	24 Nero
5	10 Atys	15 Atyla	20 Eneas	25 Nail	30 Goose
6	12 Tun	18 Tube	24 Hare	30 Egeus	36 Goad

	Second Wall.					
	7	8	9	10	11	12
2	14 Tray	16 Toad	18 Toby	20 House	22 Hen	24 Hair
3	21 Ant	24 Hero	27 Ink	30 Mouse	33 Egg	36 Maid
4	28 Hebe	32 Moon	36 Medea	40 Rose	44 Aurora	48 Arab
5	35 Eagle	40 Iris	45 Earl	50 Eolus	55 Lily	60 Daisy
6	42 Urn	48 Ruby	54 Jar	60 Ideus	66 Dove	72 Can

	Third Wall.				
	2	3	4	5	6
7	14 Equery	21 Hat	28 Howe	35 Mule	42 Iron
8	16 Tidy	24 Hare	32 Gun	40 Oars	48 Robe
9	18 Tib	27 Inca	36 Guide	45 Reel	54 Lyre
10	20 House	30 Geese	40 Fars	50 Ajax	60 Dose
11	22 Nun	33 Gig	44 Zara	55 Jail	66 Dido
12	24 Hare	36 Mead	48 Rib	60 Vase	72 Cain

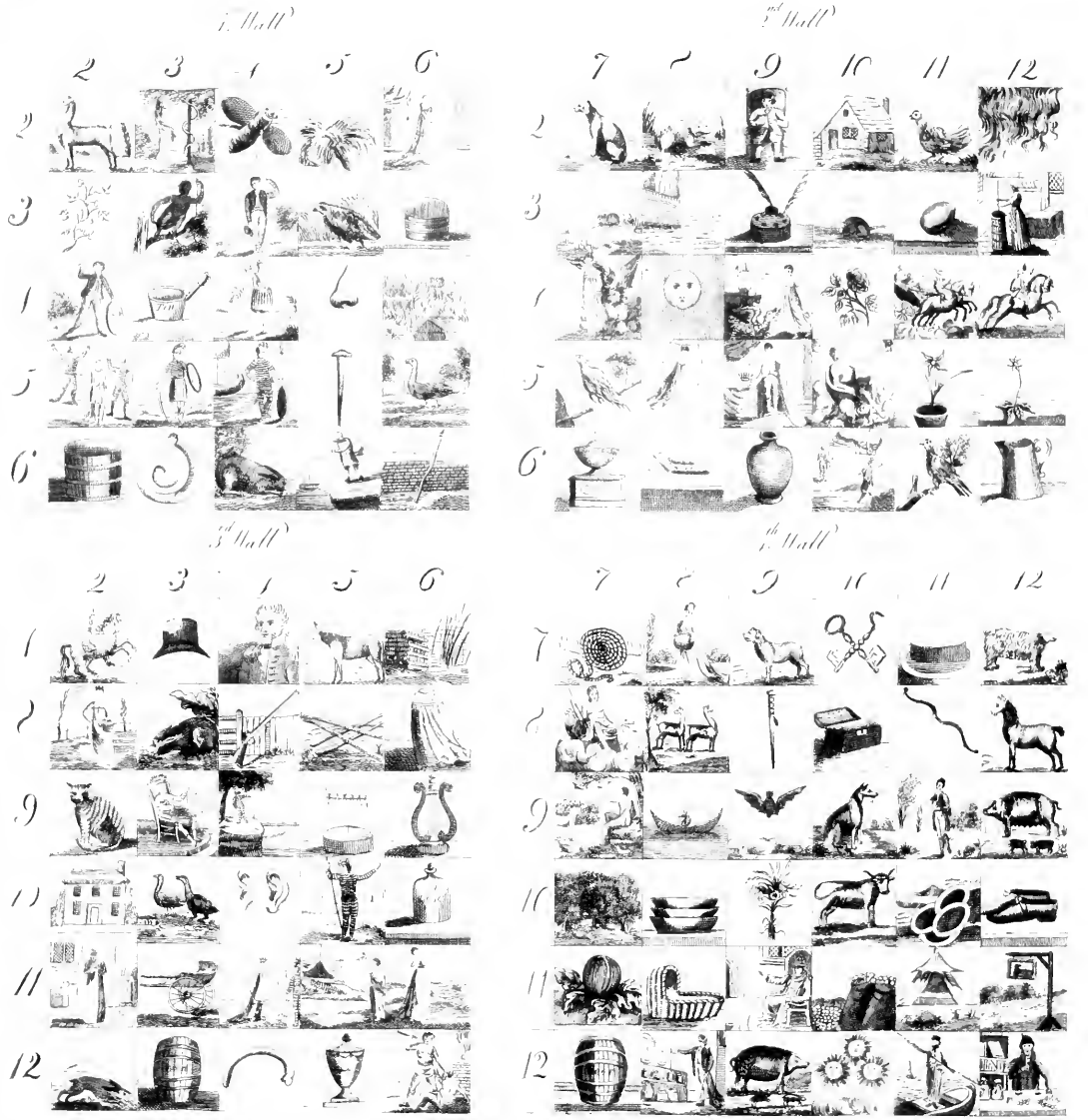
	Fourth Wall.					
	7	8	9	10	11	12
7	49 Rope	56 Lady	63 Dog	70 Keys	77 Cake	84 Bear
8	56 Jove	64 Deer	72 Cane	80 Box	88 Bow	96 Pad
9	63 Adam	72 Canoe	81 Bat	90 Fox	99 Fop	108 Sow
10	70 Oaks	80 Wax	90 Posey	100 Ox	110 Quoits	120 Shoes
11	77 Cocoa	88 Babe	99 Pope	110 Tatoes	121 Tent	132 Sign
12	84 Beer	96 Fido	108 Sow	120 Suns	132 Seaman	144 Usurer

These pictures ought to be repeated by the learners once a day, for some weeks, looking intently on them, each time; and tolerably impressed before they are are asked to decypher the words; after which the usual cross-examination may take place; for instance, how much is 3 times 5? they immediately think on the row No. 3, *fifth* place, they see there QUAIL, which reduced to figures, gives 15—they will soon know on which wall to look for any multiplier, the order of the walls being thus—to begin with any wall of a room they please, and continue to number them from the left-hand to the right; the two first walls will have the multipliers from 2 to 6, the other two walls from 7 to 12—If asked how much is 8 times 8, the learners know that the multiplier 8, and the multiplicand 8, is upon the 4th wall; they there see DEER, the consonants of which give the letters 64, the D being 6 and the R a 4, and thus with all.

By repeating them a short time in this way, they will have all the advantages of the common mode, for 8 times 8 they will have to repeat is 64, which a little practice will render so familiar, that they will have no occasion to refer to the wall; with this circumstance in their favour, that if they should be uncertain whether they are correct or not, they can at once determine it, by referring to their symbol.

It will be necessary to separate the pictures; not to put them upon the walls as they are now united in the diagrams; but to divide the first wall by the eye into five stripes, and place the symbols at an equal distance from each other; for if they were put close together; it would not be easy for the mind to separate them. The same arrangement to be made on the other three walls;

Stamp


1st Wall
2nd Wall
3rd Wall
4th Wall
2
3
4
5
6
7
8
9
10
11
12
1
2
3
4
5
6
7
8
9
10
11
12

only that the third and fourth walls have each six stripes, which difference from the two first, it will be easily seen could not be avoided.

An objection may be made to this plan, by stating the supposed difficulty of making children acquainted with the letters that represent figures; but this will be found on trial perfectly easy, and will thus render them early acquainted with their use, which if they follow the system of mnemonics in its extended sense, will be so necessary to be known by them; if the proper means be employed, a child of tolerable capacity, could commit the whole table to memory in four lessons of half an hour each.

Although for this table, no system can supersede the necessity of trusting to memory for the recollection of it, yet some assistance may be occasionally derived by *learners*, in parts of the table, by observing a few partial rules.

When 5 for instance is the multiplier, a child could be taught, that when the multiplicand is an even number, such as 2, 4, 6, 8, &c.—that to take the half of such number, and join a cipher to it, gives the product—thus 5 times 6, is easily ascertained to be 30—for the half of 6 is 3, join to it a cipher, it is the sum 3,0—5 times 8? the half of 8 is 4—join a cipher, is 40——When the multiplicand is an odd number, instead of joining a cipher to the nearest half of such number, join a five to it—thus 5 times 7—the half of 7 is 3, and *one* over—that *one* is a 5—joining it to the 3, is 35.—

How much is 5 times 9?—the nearest number to the half of 9 is 4, join to it a 5—is 45.—When 5 is named as the multiplicand, it can be always shifted as the multiplier; for 7 times 5 is the same as 5 times 7.——It is scarcely necessary to point out, that when 10 is the multiplier, that a cipher added to the multiplicand, gives

the product, 10 times 6—by joining an 0 to 6 is 60, &c. &c.

11 times any number is very simple, by considering it always as a multiplicand; then whatever the multiplier may be (under 10) to put it down twice:

9 times 11, by putting down 9 twice, is 99.

7 times 11, 7 twice put down, is 77.

When 12 is the multiplier, or multiplicand; the usual manner will be found sufficiently easy, as 6 times 12 is found to be 72; by multiplying the 2 of 12 by 6, it makes 12; putting down 2 and carrying 1, and then multiplying the 1 of 12 by 6, and adding the 1 that was carried, to it; it makes 7; which put down by the 2, is 72—or perhaps the following mode, may be more simple in the same sum, —by observing what number the multiplier is above 5—such excess to be the multiplier of the 2 of 12, and then adding the first multiplier to the 1 of 12, gives the sum.

Thus, in the above sum 6 times 12—the 6 is 1 above 5, once 2 (the 2 of 12) is 2, then adding 6 to the 1 of 12 is 7, joined to the 2 already had, is 72.

8 times 12?—8 is 3 above 5—3 times 2 are 6, the 8 added to the 1 of 12 is 9, joined to 6 is 96.

For 10 times 12 the rule has been already given, by joining an 0 to 12, is 120—but to do 11 times 12, first multiply the 2 of 12 by the 1 of 11, it makes 2, then add 11 to the 2 of 12, makes 13, prefixed to the first 2 makes 132.

12
11

132

12 times 12 in like manner—Twice 2 are 4; 12 and 2 are 14, joined to 4 is 144.

12
12

144

12 times 14?—Twice 4 are 8; 12 and 4 are 16; joined to 8, is 168.

When 9 is the multiplier, it can be always made the multiplicand, then whatever the multiplier is, reduce it a figure, which note in the mind, belongs to the tens place; then subtract it as originally given, from 10; such remainder will be the unit figure, which joined to the figure in the tens place, gives the product.

Thus 8 times 9—take 1 from 8, leaves 7, then take 8 from 10, and 2 remains, join it to the 7 is 72.

7 times 9?—Make 7 one less, is 6—take 7 from 10, and 3 remains; joined to the 6 is 63—here it is obvious that the 9 need not be used in these operations, but merely understood.

9 times 9?—reduce the multiplier 9 one figure, makes 8; take 9 from 10 and 1 remains; joined to the 8 is 81. This plan applies to all figures under 9 (9 inclusive).

These rules for the figures 5, 9, 10, 11, 12, may be of some little service: for the figures under 5—2, 3, 4, there need no rule, as they can be so easily impressed by the common mode, or the mnemonical one.

For the other figures in the table—6, 7, and 8, an exercise of memory will be likewise the best. Or for multiplying them; the plan introduced into the Lancasterian schools may be found useful; by the fingers of each hand being used to effect that purpose:—thus, if asked how much is 8 times 7?—it is resolved (or any sums between 6 and 9) by always considering the number of figures both in the

multiplier and multiplicand that are above 5; and then to press down the proper number of fingers on the palms of the hands to represent those figures, which in numbers are the *tens* belonging to the sum; the other fingers on each hand that are not pressed down, are to be multiplied by each other, which sum belongs to the units, thus the above multiplier 8, is 3 above 5, therefore 3 fingers must be pressed down on the right hand:—the multiplicand 7, is 2 above 5; press down 2 fingers on the palm of the left hand; these 2 fingers added to the 3 fingers of the right hand make 5, equivalent to 50; then, as there are 2 fingers up, on the right-hand, and 3 fingers up, on the left—they must be multiplied by each other, 3 times 2 are 6, which added to the 50, is 56, the correct sum.

This plan, or something resembling it, is pretty generally introduced into those seminaries; the same calculations may be effected, though perhaps not so quickly by proceeding in the following manner—subtract the multiplier and the multiplicand each from 10; let the remainder of one be multiplied by the other; their product will be the figure belonging to the units place, then subtract from the multiplicand, the remainder that was had from the multiplier;—this second remainder belongs to the tens place, and being joined with the units figure is the correct sum. Observe that the greater number must be always made the multiplicand, if not, then *its* remainder from 10 must be subtracted from the multiplier.

Example.—8 multiplied by 7:

From 10 subtract 8 = 2
From 10 subtract 7 = 3

56

Mutiplying 2 by 3 = 6 the units figure.
Subtracting 3 from 8 = 5 the tens figure—joined =56.

Example II.—8 multiplied by 8:

10—8=2
10—8=2
64

10 minus 8, equals 2, the remainder from the multiplicand,
10 minus 8, equals 2 ditto multiplier.
Multiply one 2 by the other, equals 4, the unit figure.
Subtract the lower 2 from the upper 8 leaves 6, the tens' figure.

Example III.—9 times 6:

10—9=1
10—6=4 - 1×4=4
9—4=5 join 4 to the 5=54
54

To perform the operations in the mind of multiplying figures beyond 12, without having recourse to the usual mode of working them on paper or slate, may be, in some cases, desirable; a few examples are given, in hopes that some general rule may be deduced, to render them still more simple.

—In figures between 12 and 20, the multiplier must be added to the right-hand or unit figure of the multiplicand, to which result join a cipher, then multiply the unit of the multiplicand, by the unit figure of the multiplier, and add such product to the sum gained by the first operation; as in this example.

18 multiplied by 15—

15	Add 18 to 5 makes 23, to which join a cipher,	=230
18	Multiply the 5 of 15, by the 8 of 18, equals - -	40
270	Which added to 230 is - - -	270

Example II.—16 multiplied by 14:

16
14
224

14 and 6 are 20, join an 0, is 200
4 times 6 are - - 24
Added are - 224

Example III.—19 times 17:

19
17
323

20, J
17 + 9 = oin an 0 = 260
7 × 9 = 63 + 260 = 323

Another mode of multiplying the same or similar figures, is given in these two following examples, which method is less useful than the former one, as it only extends to figures under 20:

Example IV.

18
15
270

Multiply the unit 8 by the unit 5 makes 40, put dow an 0, and carry 4, which added to the units 5 and 8, make 17; put down 7, and carry 1 to the 1 of 15 is 2, in all 270.

17
16
272

7 × 6 = 42, put down 2 and carry 4.
4 + 6 + 7 = 17 put down 7, and carry 1.
1 + 1 = 2, joined to 7 and 2 = 272.

To multiply figures that are between 20 and 100, a little modification, or rather a fuller explanation of the first rule is requisite.

As in that method; so must the multiplier of any sum above 20, be added to the unit figure of the multiplicand; but then the result must be multiplied by the figure which is in the tens place, or left-hand figure of the multiplicand; afterwards proceed as in the first examples; as 28 times 22 will evince.

Example V.

28
22
616

22 and 8 are 30, which multiplied by the 2 of 22 makes 60, join an 0 is 600; next multiply the two units, 8 times 2 are 16, added to 600 is 616.

Example VI.—Multiply 29 by 24:

29
24
696

24+9=33
33×2=66, join a cypher=660
4×9+660=696.

Example VII.—Multiply 47 by 43.

47
43
2021

43 and 7 are 50, which multiplied by the 4 of 47 makes 200, join an 0, equals - 2000
Multiply the unit 7 by 3, is - 21
2021

This mode may be better considered by putting letters for figures, 47 represented by z κ, and 43 by r m.

z κ
r m
2021

r m+κ=50
50×z=200 join an 0=2000
κ×m+2000=2021

The rule for these examples does not vary in principle from the first rule for figures under 20; for in this, the figure in the tens place of the multiplicand is used; in that it was unnecessary, for being a 1, to multiply by such number, could not increase it.

So far this rule can be applied with facility, when the figures in the tens places of the factors are alike; but when those figures are different, the process is not quite so simple; but a little practice will make it sufficiently easy The rule is, to make the greater number the multiplier, and add it as before, to the right hand or unit figure of the multiplicand; then multiply such result by the tens figure of

the multiplicand; the next step is to subtract the tens figure of the multiplicand, from the tens figure of the multiplier, then with this remainder multiply the unit figure of the multiplicand; such product, if a single figure, to be added to the last figure of the sum already had; but if such sum has three figures in it, and the product two, then the product will have to be put down in the units and tens places, and added in the common manner; to this last sum an 0 must be joined, after which, multiply the unit of the multiplicand, by the unit figure of the multiplier, and add such product to the former sum; being the true answer.

From reading this description it may appear a tedious plan, not worth the labour of acquiring a knowledge of it, but a few efforts will prove the contrary; and that a person without the aid of pen or paper, could work a sum much quicker than another with such aids.

Example I.—Multiply 24 by 36.

24
36
864

Add 36 to 4 makes 40, multiplied by the 2 of 24 is 80; as the difference between the 2 of 24 and the 3 of 36 is 1; it is one 4 of 24, which must be added to 80, making 84; Next join an 0=840, then multiply the 4 of 24 by the 6 of 36 is 24, added to 840 is 864.

$$36+4=40$$
$$40\times 2=80$$

The difference between 2 and 3 is 1 -

$1\times 4+80=84$ join an $0=840$
$4\times 6+840=864$

Example II.—Multiply 32 by 68.

32
68
2176

Add 68 to 2, equals 70, which multiplied by 3 is 210; the difference between the 3 of 32 and the 6 of 68 being 3, is the multiplier of the 2 of 32, making 6, adding it to 210, is 216, to which join an 0, equals

2160; then multiply the unit 2 by 8, makes 16, added to 2160 equals 2176.

Example III.—Multiply 38 by 76.

38
76
2888

Add 76 to 8 is 84, multiplied by 3 is 252, the difference between the 3 of 38 and the 7 of 76 is 4, by which figure multiply the 8 of 38, making 32, added to 252 is 284, join an 0, is 2840, next multiply 8 by 6 is 48, added to 2840 equals 2888.

$$76+8=84$$
$$84\times3=252$$

The difference between 3 and 7 is 4 -

$$4\times8+252=284 \text{ join } 0=2840$$
$$8\times6+2840=2888$$

A different mode may be adopted, by making the lesser number the multiplier, and proceed as in this Example:—

Multiply 42 by 28.

42
28
1176

Add 28 to 2 is 30, which multiplied by the 2 of 28 is 60, then subtracting the 2 of 28 from the 4 of 42 leaves 2, by which figure multiply 28, making 56, which added to 60 is 116, next join an 0 is 1160, multiply the units 8 by 2, is 16, plus 1160, equals 1176.

Those two modes embrace all figures between 12 and 100, another arrangement is now submitted, which is in many instances superior.

Rule.—When the figures in the tens places are alike, and the figures in the units places by being added together, make 10; the figure in the tens place of the multiplicand must be increased 1; (which 1 ten is the sum of the units) then multiply them in the usual manner, putting down each product without any other combination.

Thus to multiply 27 by 23; the multiplicand 27 must be viewed as if it were 37.

Example I.

27 considered 37
23 - - - 23
621 - - - 621

Then say 3 times 7 are 21, which must be put down.—Twice 3 are 6, prefixed to 21 is 621.

Example II.—46 times 44.

46 considered as 56
44 - - - 44
2024 - - 2024

6 × 4 = 24 which put down.
5 × 4 = 20 prefixed to 24 = 2024.

When the figures in the units places, by being added together make more than 10, the excess must be noted; and after the units have been multiplied, the figure in the tens place of the multiplier, must be multiplied by the excess alluded to, which sum must be added to the tens figure gained by the multiplication of the units, afterwards proceed as in the former example.

Example I.—Thus 27 times 24 must be viewed as 37 times 24.

27 considered 37
24 - - - 24
648 - - 648

4 added to 7 makes 11, which is 1 above 10; this figure must be used afterwards; for the addition of the units is not necessary to work the sum, being only requisite to ascertain the excess of 10.

The 7 of 37 must be multiplied by the 4 of 24, making 28, the 8 is to be put down as part of the product; next multiply the 2 of 24 by the excess 1, making 2, which is to be added to the 2 of 28, making 4; joined to the 8 is 48; then multiply the figures in the tens places, 3 by 2 gives 6, joined to 48 is 648.

27 multiplied as 37 — 7 × 4 = 28 put down 8 and carry 2
24 - - - - - 24 — 2 × 1 + 2 = 4 put down 4
648 - - - 648 — 2 × 3 = 6 joined to 4, and 8 = 648.

To work the sum with the letters that represent the figures, may make it less liable to mistake; we shall call 37, M K, and 24, H R.

M K
H R — 4 and 7 are 11, being 1 above ten, call such excess Q.
D Z B

R × K = 28, which call N B
H × Q + N = 4 call Z
H × M = 6 call D
Join D, Z, B together, is the sum = 648.

Example II.—48 multiplied by 45,—view 48 as 58.

48 viewed as 58
45 - - - 45
2160 - - 2160

As 5 and 8 are 13, the excess of ten is 3. Multiply 8 by 5 is 40, put down 0, and carry 4, next multiply the 4 of 45 by the excess 3, equals 12; added to the 4 that was carried makes 16, put down 6 before the 0 of 40, and carry 1; then multiply the 5 of 58 by the 4 of 45 makes 20, added to the 1 that was carried makes 21, which prefixed to the 60 already had, is 2160; the correct sum of 48 multiplied by 45.

When the figures in the tens places are not alike, and the unit figures by being added together make 10, act as in this example—58 times 32.

58 } 8 multiplied by 2 makes 16, put down 6 and carry
32 } 1, then subtract the 3 of 32 from the 5 of 58, leaves
1856 } 2, with this figure, multiply the 2 of 32, making 4, which added to the 1, that was carried from 16, makes 5; which must be put down before the 6, then considering the 5 of 58, as a 6, according to former examples; multiply it by the 3 of 32 makes 18, put down before 56, gives the product 1856.

These examples are purely given, in hopes that the faint light which is thrown upon this mode of multiplying figures, may induce some person that has leisure, to devise a more complete method, by making (if possible) one general rule, for such or similar calculations. The same motive induces the writer to give an example or two, of some cases where three figures may be multiplied in the mind.

Rule.—When the figures in the tens and the units places, are alike in the multiplier and in the multiplicand, and the unit figures, by being added together, make 10—proceed like the first examples.

Example—136 multiplied by 134.

136 } Add 134 to 6 makes 140; reject the 0 and consider
134 } the sum as 14, with which multiply the 13 of 136,
18224 } first adding 14 to the 3 of 13, makes 17; join to it an 0, equals 170, then the 4 of 14 and the 3 of 13, being multiplied by each other, gives 12, added to 170 is 182—then multiply the unit 6 by the unit 4 gives 24—joined to the 182 already had gives the correct sum.

Example II.—262 by 268.

262 } 268+2=270, reject 0, leaves 27
268 } 27+6=33
70216 } 33×2=66, join 0=660
6×7+660=702
2×8=16, joined to 702=70216.

Another mode of working similar sums is conformable to the examples, page 132.

Multiply 147 by 143.

147
143
21021

Multiply the 7 of 147 by 3, equals 21, which put down as a part of the product, then increasing the 4 in the tens place of the multiplicand a 1, makes 5, (the tens figure of the multiplicand must always be increased 1), which multiplied by the 4 of the multiplier, makes 20, put down 0 and carry 2, then add it to the tens figures of the multiplier and the multiplicand, and then to the figure in the hundreds place of the multiplicand; in this instance, say 2 and 4 are 6, and 4 are 10, and 1 are 11, put down 1, and carry 1, to the 1 of 143 makes 2, prefix it to the other figures, gives 21021.

147	Q R K	K × M = 21
143	T Z M	R made 5 × Z = 20 calls N S
21021	H T S N T	N + Z + R + Q = 11 call Q' T
		T + Q' = 2 call H

Join H T S to 21 = 21021

Many other examples of a similar nature might be given, these will suffice to shew the outlines of the prominent ones; but we shall conclude this chapter by another method which although not new, yet as it is not generally known may be of service.

This mode may appear complicated but a little practice will make it easy.

The letters that represent the figures mnemonically, will be put under the figures of the multiplier and the multiplicand, and will be so continued throughout the operation.

Example—Multiply 234 by 512 in one line.

2 3 4 multiplicand
H M R
5 1 2 multiplier.
L T N

119808

$2 \times 4 = 8$ put down 8 as part of the product.
N R

$2 \times 3 = 6$ call D
N M

$1 \times 4 + D = 10$ put down 0 and carry 1, call Q
T R

$2 \times 2 + Q = 5$ call J
N H

$5 \times 4 + J = 25$
L R

$1 \times 3 + 25 = 28$, put down 8 and carry 2, call H'
T M

$1 \times 2 + H' = 4$ call Z
T H

$5 \times 3 + Z = 19$ put down 9 and carry 1, call Q'
L M

$5 \times 2 + Q' = 11$ put down.
L N

Which in words would be as follows:

Twice 4 are 8, put down 8.

Twice 3 are 6 and (once 4) 4 are 10, put down 0 and carry 1.

Twice 2 are 4 and 1 are 5, and (5 times 4) 20 are 25, and (3 times 1) 3 are 28, put down 8 and carry 2.

Once 2 are 2, and 2 are 4, and (5 times 3) 15, are 19, put down 9 and carry 1; 5 times 2 are 10, and 1 are 11, which put down.

This method may be extended to any number of

figures; the plan consists in first multiplying the two figures that are in a straight line, or opposite each other; then in a diagonal line from the first figure of the multiplier to the second figure of the multiplicand, next diagonally from the second figure of the multiplier to the first figure of the multiplicand, and in the same manner through the whole sum.

Another example is given of multiplying four figures by four figures, which need not be put down algebraically, for the knowledge of the method, by which the former sum was effected, will direct in this.

4653
7428

34562484

8 times 3 are 24, put down 4 and carry 2.

8 times 5 are 40 and (2 carried) 2, are 42, and (2 × 3) 6, are 48; put down 8 and carry 4.

8 times 6 are 48 and (4 carried) 4 are 52, and (4 × 3) 12, are 64 and (2 × 5) 10 are 74, put down 4 and carry 7.

8 times 4 are 32 and (7 carried) 7 are 39, and (7 + 3) 21, are 60, and (2 × 6) 12 are 72 and (4 × 5) 20 are 92; put down 2 and carry 9.

Twice 4 are 8, and (9 carried) 9 are 17, and (7 × 5) 35 are 52, and (4 × 6) 24 are 76, put down 6 and carry 7.

4 times 4 are 16 and (7 carried) 7 are 23, and (7 × 6) 42, are 65, put down 5 and carry 6.

7 times 4 are 28, and (6 carried) 6 are 34.

When there are fewer figures in the multiplier than in the multiplicand, it will be much easier to work the sum, than when they are equal in numbers, as this example will shew.

5321
62

329902

Twice 1 are 2, which put down.

Twice 2 are 4 and (6 × 1) 6 are 10, put down 0 and carry 1:

Twice 3 are 6 and (1 carried) 1 are 7, and (6 × 2) 12 are 19; put down 9 and carry 1.

Twice 5 are 10, and (1 carried) 1 are 11, and (6 × 3) 18 are 29, put down 9 and carry 2.

6 times 5 are 30 and (2 carried) 2 are 32.

MNEMONICAL DICTIONARY.

THIS Dictionary is composed of words, the consonants of which, represent the respective figures that they are attached to. It will be of considerable service to Mnemonicians; for any combination of figures that they require words for, by referring to the proper figure or figures, they will see a variety of words, some of which may be more suitable for their subjects than others. If single words cannot be found for some figures, they can be easily compounded of two, or three, or four, &c. but they ought to be so chosen as to form a correct sentence or sentences. As there may be many words in the language that are not in this compilation, blank spaces are left to each series, to be filled up occasionally, as they occur to the minds of those who practise the system.

Mnemonical Words.

No. 1—3.

1 Ate. eat. oat. out. tie. tea. toy. toe. to. too. it. ait. yet. et. at. etia. queue. quay. equi. aqua. etui. ta. te. toi. etau. ote.

2 Nay. no. noy. nye. in. on. one. any. an. enyo. anea. yean. aon. anio. ione. ionia. yon. hay. he. hie. hoe. aha. hoy. hey. ah. ho. noue. ino.

3 My. me. may. maia. aim. am. aime. yam. ome. guy. go. agio. gay. age. ago. aga. ague. ogee. auga. goa. augea. emoi. emu. mu. mue.

No. 4—13.

4 Roe. rue. rye. ray. roy. air. aroe. airy. airie. area. ear. ora. era. oar. ore. year. your. ire. eyre. aurea. o'er. eyry. yore. aria. oary. oyer. yare. œora. ara. uria. ere. ooze. oozy. zoe. our.

5 Leo. lay. lie. loo. lea. ail. eel. ale. oil. oily. olio. aloa. ely. yale. aleo. elea. ilia. iole. ali. joy. jay. joe. elu. la. le.

6 Doe. day. die. due. do. dye. dai. dee. ida. ado. aid. ode idea. idyia. odo. eudo. ada. vie. eve. ivy. veia. veii. via. uvee. vue.

7 Key. oak. yoke. ake. eke. ice. ace. coy. cue. coo. icy. coa. cea. cei. oacea. ecu. coe. ici.

8 Bee. beau. buy. bay. boy. buy. bo. by. baia. be. bea. boi. obey. aba. abia. euboa. obi. awe. owe. ibi. away. way. we. wee. woo. woe. wye. yew. ewe.

9. Pie. pea. po. pay. ope. ape. up. opea. opy. apia. epei. auf. fee. foe. fie. oaf. fa. if. of. foy. fy. feu. epee. epi. peau. fay.

10 Teas. tease. ties. toes. tose. tax. teos. tiasa. tis. itis. atys. oats. itys. eats. oats. atias. atas. etesia. otus. œtius. aqueous. quis. queasy. toise.

11 Tate. tut. teat. tot. tit. tete. toot. teuta. titia. titii. tutea. otto. quiet. quote. quoit. quit. quota. quite. etite. equity. eatit. ateit. teaout. tieatoy. toit. totie. totoy. tata. tet. tetu. tique. tota.

12 Tin. ton. tune. tone. tan. tiny. ten. tun. tony. tine. tyne. etna. itonia. tyana. oaten. eaten. atone. ætion. autonoe. atina. œtion. tion. queen. quean. quoin. quin. taon. tenu.

13 Time. tome. tame. tom. team. teem. tag. tug. tig. teague. tige. tegea. timea. atom. item. atomy. outgo. queme. eatme. tieme. tome. togo. toaim. toga, tim.

No. 14—21.

14 Tare. tar. tear. tiara. tier. tauri. tire. tyro. tory. true. try. tree. tiro. tray. tor. tore. tour. tozy. troy. eater. iturea. outer. quire. quiz. queer. query. equery. equiria. etre. taureau.

15 Tail. tile. tool. tale. teal. toil. teil. tuel. tola. telea. otley. otolia. atyla. quail. quoil. equal. aquila. aquilo. aquiliea. toail. tolie. to oil. eatoil. outlie. to loo. ateoil. etoile. tael. utile.

16 Toad. tide. ted. tid. tidy. tod. tivy. tied. tead. tidea. tuova. tyde. outdo. outvie. atyadæ. quid. quaid. quod. quadi. to day. todo. to die. tovie. to a day. eatadoe.

17 Take. tyke. tice. took. tike. tace. teuca. toka. tokay. tucia. tooke. etc. ateca. uteca. quake. to yoke. toocoy. toake. tieoak. tiea key. to coo. eat ice. toakey. tieayoke. tac.

18 Taw. tow. tub. tube. tib. toby. tew. two. ateowa. otway. quab. tobe. toawe. to obey. tie a boy. tea boy. eataway. ate away. toowe. to buy. to woo.

19 Tape. tap. tope. tif. tip. top. tipe. type. toupee. tup. tupia. atop. quoif. quip. equip. eat a pie. eat up. ate up. to pay. tie up. to fee. to a foe. ate a pie. tie a foe. eat a pea. equipee. etoupe. taupe. tuf.

20 Nose. noose. noise. neis. neese. nias. noious. noisy. nox. nas. œneus. eanes. ensue. onyx. anise. ens. uneasy. eunus. unsay. hose. house. hysia. hox. hoax. has. his. hyas. he is. nous. nos. noíx. ones.

21 Neat. not. note. net. nut. natio. unite. unit. unity. untie. ante. aunt. ant. into. unto. antæa. anyta. eneti. hate. huet. hot. hat. heat. hit. hoot hut, no tie. no tea. no toy. on a quay. nota. unique.

No. 22—28.

22 Nine. noun. nun. none. noon. noah. non. nœnia. nan. neon. nani. inn. annoy. onion. union. anno. anon. anne. enna. ennia. œnon. œnona. œnone. anania. aneion. hone. honey. hen. hyena. ennui.

23 Name. nim. nag. numa. nemœa. nomœ. nomii. onœum. onium. enemy. young. anomy. inge. ænum. eunomia. ham. hem. home. him. hag. hog. huge. haum. hym. hug. hum. hugy. hygeia. hamæ.

24. Nero. nare. neuri. near. nor. nora. nizy. nerio. nar. inure. œnyra. hare. here. hire. hair. hiero. her. hero. hoary. hoar. hazy. heir. hear. hour. hyria. horæ. haze. hairy. heiy. huer. hera. hora.

25 Nail. nile. neal. noul. nuel. nelo. nola. noel. only. inly. inlay. enjoy. anil. unoil. hale. hail. hole. haul. heal. holy. hoyle. heel. halo. hyale. halia. hyela. hylœ. ahala.

26 Need. naud. nod. nude. nave. navy. ned. needy. nava. nide. node. novæ. india. unde. end. and. anode. envy. envoy. endue. indue. undue. yond. anda. eneid. hyde. head. huda. hide. hod. hood. heady. heave. hive. hove. heavy. heed. hid. had. hyda. hedui. heyday. ahead. have.

27 Nook. nice. neice. nicia. nicœa. ink. ounce. once. inky. inca. unyoke. ancia. hook. haak. huke. in a key. in a yoke. an oak. yon oak. on ice. yon ice. yon key. one key. one yoke. no key. no ice. any ice. an ace. in oak.

28 New. nab. nib. now. nob. neb. niobe. nebo. anew. unawe. onoba. enow. unbay. hob. haw. hew. how. howe. hebe. ahab. one boy. no boy. yon boy. one way. no way. anyway. any boy.

No. 29—35.

29 Nap. nip. nape. nef. neif. nepia. napæa. neap. nep. nepe. nope. nopia. neaf. unpay. enope. anopea. ænopia. hoof. hope. hip. heap. hop. hoop. hyp. hap. houp. no foe. any foe. in a pie. in pay. no fee. no pay.

30 Mouse. muse. mix. mease. maus. moxa. mysia. mus. mise. moose. musæ. mosa. amuse. ames. amas. amasia. geese. goose. guise. gas. gaus. egeus. ægis. ægus. augeas. ægas. agis. museau.

31. Meat. muta. mite. mote. moat. mute. mat. met. meet. mutia. moiety. moot. mate. mete. amit. amity. amata. emit. omit. get. got. goat. gout. gouty. gait. gut. gate. gaiety. gat. geat. geta. agait. agate.

32 Man. main. mean. mien. moon. moan. mine. mane. mania. men. mona. mien. money. mooney. moine. amain. omen. yeoman. amen. yeomen. gun. gain. gone. gin. genio. guinea. genii. genoa. agony. agonia. again. igeni. eugene. ægina. egeon.

33 Maim. mam. mum. mama. mag. mug. magi. mage. mome. mime. image. omega. emma. game. gum. gyge. gem. gama. gam. gig. guage. gag. gog. gouge. gage. gim. gome. egg. ogygia. agog. ægium. agag.

34 Mayor. mar. moor. mare. more. mire. miry. mary. maria. meer. maze. maize. maro. mere. mazy. moory. amor. amaze. amour. emery. omar. gaze. gaza. gear. gore. grey. gory. gauze. gare. gray. goer. agree. augur. agra. eager. auger. agaze. augury. egeria. agir.

35 Maul. moleia. male. mile. mela. moil. mule. mail. mole. mealy. mayle. moly. milo. melo. molo. meliæ.

No. 36—41.

emily. æmilia. aumail. gaul. gela. guile. gelo. goal. gaol. glue. gale. gaily. glee. gluey. gala. aglaia. agile. eagle. oglio. ugly. ægila.

36 Maid. mad. made. mode. mede. mud. moad. meed. mead. mid. may day. medea. modia. move. moody. mævia. amid. aimed. amove. good. gad. goad. guide. god. goody. give. gave. gaudy. govea. goud. gove. agued. agave.

37 Mice. mace. make. meek. meak. moky. mucia. macæ. micea. moecia. amice. geek. gauky. egica. my key. my oak. my ace. my ice. i'm coy. my yoke. may ake. my ake. may yoke. my cue. I go coy. may I yoke. I may yoke. agace. maco.

38 Maw. mew. mow. mob. mab. imbue. embay. umbo. ombi. gibe. gob. gib. gab. gybe. gobo. gabii. my beau. may bee. my boy. my ewe. my bee. may we. my way. my woe. may woo. may be. go by. go buy. go away.

39 Map. mope. mop. imp. gape. gap. gopiæ. gif. agape. my ape. my pay. my foe. my fee. may fee. aim up. am up. go pay. go fee. age of. guep.

40 Rose. rosy. rise. rosa. raise. rouse. rase. arose. arise. erus. aries. iris. erase. oreas. airs. arius. oars. ears. ours. yours. years. ruse. erixa. eros. areas. aoris. zeos. aris. arouse.

41 Rate. rat. riot. rote. root. rot. rite. rout. route. ratio. reate. reit. rooty. art. aorta. erato. areta. erotia. euryte. eurytecæ. oretœ. uzita. urota.

42 Rain. reyn. ruin. rouen. run. ran. rainy. rein. roan. royne. rhea. rhœo. arena. iron. urn. arian. irony. orion. arion. earn. urania. eurione. yarn. yearn. yern. arne. aurinia. irene. ornea. aaron. zany. zeno. zone. zona. ozœna. orin.

No. 43—50.

43 Rome. room. roam. ram. rugæ. ream. rim. rage. rug. rag. rig. rouge. rogue. roomy. remi. rugii. rimy. arm. army. argo. urge. aurum. yarum. arge. argea. argi. argia. arima. armi. aroma. ergo. argue. zygia. orge. orme. orage. orgue. ormoie.

44 Roar. rear. rare. roary. raze. err. azure. array. aurora. airer. urry. yarr. arar. arria. zara. your ear. our oar. our roe. our year. aërer. zero.

45 Real. relay. royal. rely. rule. reel. rail. rial. earl. early. oral. ærial. euryale. ariel. aurelia. yarely. yearly. zeal. zela. ozolœ.

46 Red. rod. ride. rode. rid. rude. rood. road. reed. read. ready. rove. rovy. redi. rave. reave. reedy. rede. reve. reeve. rive. rudiæ. arid. erode. eared. ord yard. ardea. aired. zaida.

47 Rake. rook. rice. race. racy. reek. reeky. rooky. ark. arc. york. erke. irk. ork. yerk. aricia. your key. our key. earake. our oak. your oak. o'er ice. you're coy.

48 Rowe. row. raw. rib. rob. robe. rub. ruby. rubi. rabi. roby. arab. orb. arabia. oreb. ireby. erebœa. eurybia. orobia. orbio. our boy. your boy. airy bay. our way. you're away. our ewe. your way. our buoy.

49 Rope. rape. rupee. ripe. reap. rip. reef. rife. ropy. roof. rap. repay. roofy. rapee. rufœ, europa. europe. erope. arpi. your foe. your fee. your pay. your pie. our foe. our fee. our pie. our pay. you'r up. our pea.

50 Lies. lose. lease. loose. lea-y. lees. louis. lux. lais. laus. leos. aloes. alias. also. alas. ilias. else. aloeus. alos. ajax. ilius. ilix. ilus. alesia. elos. elis. alese. aleus. æolus. alax. alus. alexia. Iolas. joyous. joys. jays. jus. lieux. les.

No. 51—57.

51 Lute. late. lot. lit. laity. leet. lout. lota. lytea. elate. elute. eyelet. alotia. alate. alt. elatea. elatia. elotœ. elyot. jet. jot. jut. ail it. oil it. lay it. lay out. lie out. lay too. lay at. lait. laique. joute. laque.

52 Lean. line. loon. lone. lion. lane. lain. leon. loan. lin luna. lune. lenœ. lœna. leona. alone. ilion. alien. eleon. alain. ilione. eluina. olen. auln. alani. juno. june. jane. join. laine.

53 Lama. lame. lime. loam. loom. lomia. loamy. league. ligea. lagea. lig. limy. lug. lag. lamia. legio. limœa. lamy. log. lugo. leg. alum. elm. elegy. eulogy. alogy. almo. jug. jog. jugy. jig. jam. jumeau. lege.

54 Lear. liar. lore. lure. lyre. layer. laura. lazy. leer. lair. leri. loir. laur. lere. lara. leria. lero. eliza. iluro. jury. jar. jeer. jera. jura. lay o'er. lie o'er. jouir. leur.

55 Lily. loyal. lelia. lilœa. lely. loyola. all. allay. alley. alloy. ally. ell. yell. alloo. alla. ill. allo. aello. alala. allia. alalia. alilœi. july. jail. julia. julii. joly. jole. joul. jael. elle.

56 Lady. lad. load. lead. lid. laid. lide. lave. love. leave. live. levy. levee. ledea. leda. laud. led. lydia. lade. livy. leavy. lieve. loud. lud. livia. levia. aloud. olivia. yield. old. alive. olive. eld. elide. eyelid. ailed. oiled. elude. olid. iliad. auludæ. jade. jove. judea. juda. jude. eleve. leve.

57 Like. luke. look. lake. lace. leak. leek, leaky. lac. lucie. luce. lucy. lyke. laco. lyco. leuce. yolk. alyca. elk. eliaca. alike. aulic. alice. joke. juice. juicy. juke. ilk.

No. 58—64.

58 Law. low. looby. lee boo. lob. lieu. lobe. lowe. labe. libo. lybia. alibi. alb. alyba. ilba. olba. olbia. alwy. juba. job. jew. jaw. lay by. lay away. aleboy. leeway. ajob. oil away. labie.

59 Leap. lip. lop lap. leaf. leafy. life. loaf. lupa. leef. lief. loof. loop. lope. aloof. elope. elf. yelp. alifœ. alope. ilipa. ulpia. ulf. olpœ. eel pie. lay up. lie up. juif jupe.

60 Daisy. dose. dosy. doxy. dues. days. dasea. dis. douse. does. dies. dase. deiois. dousa. edesa. odious. eudes. eades. ides. Idœus. eudoxia. idas. vex. vase. ives. eaves. uveaus. evas. evax. evius. ados.

61 Date. diet. doit. dote. duet. duty. deity. dot. doat. dit. doto. dati. audit. idiot. adit. vote. vat. vouet. vitia. day yet. due yet. do yet. die yet. dye it. do it. aid it. do eat. do tie. edit. data. eveque. adyte.

62 Dean. deny. deione. din. dine. dun. done. den. dan. daunia. denay. dion. dainy. dane. dan. diana. dione. danae. adonia. odin. odon. eden. vine. vain. van. vein. veiny. vane. veney. avon. even. oven. avenue. evan.

63 Dame. deem. doom. dome. dim. dug. dig. dog. dam. demi. doge. dum. damia. damo. demo. dymœ. iduma. idiom. odium. adam. adage. adagio. edge. oedima. vague. voyage. vogue. vaga.

64 Dray. dear. deer. dyer. dairy. dare. door. daria. deary. doze. dozy. diary. dire. dry. doria. dere. daze. dier. doer. dire. dairo. adore. aider. odour. adry. adure. adze. very. vary. veer. varia. over. ever. every. ivory. aver. aviary. avize. ovary.

No. 65—72.

65 Daily. dale. dole. deal. delay. dial. duel. duly. dual. delia. daly. edile. idle. idol. idyl. ideal. idly. idalia. vial. viol. vile. vale. veil. veal. value. vole. velia. vail. vole. vala. evil. oval. avail. avale. avel.

66 Deed. dad. did. dead. died. dive. dove. dido. dade. odd. add. eddy. addua. void. vade. vive. vied. vida. ovid. evade. avoid. ivy'd. I do aid. due a day. I do vie. I'd die. vide.

67 Dace. dice. dacia. decoy. decay. dike. duce deuce. duke. daci. daca. docia. idiocy. educe. educa. eudocia. voice. vice. vic. I do ake. do yoke. voici.

68 Daub. dab. daw. dew. dewy. dub. dauby. debœ. edwy. vow. view. avow. avowee. adieu boy. do away. die away. do obey. aid a boy. I do owe. a day away.

69 Deep. deaf. dupe. defy. deify. deiopea. defoe. dip. edify. doe pie. do pay. aid a foe. day of. idea of. eve of. aid of. die of. vif.

70 Case. cease. coax. cosa. cos. cosy. cause. cox. ceuse, cœsia. cæsa. caius. caus. ceos. ceus. cios. cius. coos. coes. cœus. acos. cusa. coisi. coxo. acuse. aces. ices. œacus. icos. acis. icius. acesea. keys. oaks.

71 Coat. cat. city. cite. coot. cut. cot. cato. cit. cote. coit. catia. cetii. ceto. cyta. acute. act. acuate. acute. acta. actœ. acte. actia octa. kit. kite. acété.

72 Cane. canoe. con. cone. coin. cany. cony. can. cynia. cyno. cion. cooin. cana. canæ. chea. cain. cyaneœ. cœne. iceni. icon. ache. echo. each. ocean. ouch. achœa. achœi. ocha. acuna. kin. keen. kine. knee. ken. oaken. akin.

No. 73—81.

73 Come. came. cog. cage. coom. cag. coma. cymo. como. cuma. cyma. acme. keg. kam. keyage. oakum. yokeme. akeymay. oakme. ecume.

74 Care. car. cure. core. cry. cur. cozy. cere. cize. curia. carya. carœ. coria. caria. cyre. cerii. curio. cora. cary. coz. acre. ecurie. acra. acaria. acra. icaria. ocyroe. oker. okery. acéré.

75 Coal. caul. cool. coaly. clay. cloy. keel. cale. caul. ceil. cole. coyly. clio. cœlia. celeia. cela. cilo. cleo. clue. cœla. colo. acilia. aculeo. ocalea. keil. kali. kale. oakley.

76 Cadi. cud. cave. cove. covey. code. cade. cod. cavii. caudi. cooed. cued. cede. acid. iced. kid. kyd. kayed. aked.

77 Cake. cooke. cocoa. cauk. coke. cook. cœca. cayci. acacia. yuck. acca. accia. acco. accua. oakyoke. icyoak.

78 Cow. caw. cube. cuba. ceba. cub. cob. cab. kaw. akeba. kibe. keowa. coyboy. icybay. oakbuoy. icyway. iceaway.

79 Cap. cape. coif. coop. copy. cup. cope. coupee. cauf. cop. copia. capio. cepio. capua. keep. yokeup. coyfoe. coyape.

80 Base. bays. boys. baso. bias. busy. box. bous. bousy. boeas. busa. busœ. besa. abuse. abase. obese. obeys. abas. abasa. eubius. ibis. wise. wax. wex. was. wis. abois.

81 Beat. bet. boat. bait. bit. bite. boot. booty. beauty. bat. bout. but. bata. batia. bato. beotea. buta. buteo. butoa. abate. about. abet. abut. obit. oubat. ubiety. obeatœ. eubote. wit. wet. weet. wite. wot. await. abaque. aboute. bete. beta.

No. 82—88.

82 Bean. bin. bun. been. bone. boney. boon. bohea. ban. bona. bane. bion. bunea. bony. ebon. eben. abeona. abana. abihu. wine. wen. won. wean. why. who. win. wain. wan. wane. ween. whey. winy. own. yawn. yewen. owen. owhyee.

83 Beam. bag. big. bog. bug. beamy. bam. boom. wig. wag. wage. wem. awme. by me. aboy may. owe me. awe me. boy go. obey me. buy me. we may. be gay. by age. we go. obey age. away I go. we aim. begue.

84 Bear. bare. beer. bar. boar. bore. bray. bureau. bury. buz. baize. bier. boree. beza. boor. buyer. baræi. berœa. beroe. bizia. bura. byzia. boyer. oberia. ebora. aubre. iberia. wary. wire. wiry. wore. wry. war. ware. wear. weary. were. wair. wooer. aware. ewer. awry. owre.

85 Bail. bale. belay. beal. boil. boileau. bailey. belie, bile. blay. blue. bole. baal. bala. bleau. bauli. bola. boyle. able. æbalia. abul. abel. obele. abyla. abila. eubule. wile. weal. wail. wily. wale. way lay. weel. wool. awl. owl. yawl.

86 Bid. bode. bad. bead. body. bud. bed. bevy. bade. bede. bide. beda. bevee. boud. badea. budii. ebudæ. abide. abode. above. weed. weedy. wood. wed. wad. wade. wide. wave. weave. weavy. wove. wive. woad. woody. awed.

87 Book. bake. beak. bice. boyce. weak. week. wake. wic. awake. awoke. awk. buy oak. be coy. buy a key. by a key. by oak. by a yoke. buy ice. by ice.

88 Babe. baby. booby. baubee. bib. bob. bow. beeb. bebia. boebe. bab. abbey. ebb. abb. web woba. away boy. we obey. buy a ewe. by way. buy away. boy obey. we buy. owe a boy. a wee boy.

No. 89—95.

89 Beef. buf. boop. bufo. ibif. weep. wife. wipe. waif. woof. buoy up. buy up. buy a pie. we pay. be up. way up. a boy up.

90 Pas. pays. pease. posy. poesy. pose. poise. pious. pius. pix. piscæ. pax. pisa. apex. epais. apis. epeus. iapis. iapyx. ipsea. opis. ops. opus. fox. fix. fusee. fuse. fease. foix. fosi. fusia. poix. pus. puis.

91 Pout. poet. pat. pity. pet. piety. pate. pique. peat. pot. pit. put. pityœa. petau. opiate. opaque. apt. foot. feet. afoot. fit. fiat. fate. fat. feaque. fatua. eft. oft.

92 Pan. puny. pine. pin. pun. pen. piano. pony. pain. peony. pœan. pion. pionia. pineau. epione. upon. apion. open. ouphe. epha. opine. aphœa. apina. epona. fain. fein. fan. fen. fine. fane. fin. foh. foin. fon. fauna. fauni. faune. epine.

93 Pig. pug. peg. pome. page. pag. pagi. opium. apama. apame. apamia. epium. fame. fome. fume. fumy. fig. fog. fig. fag. foamy. fugue. fama. fuge. paume. peage. piege.

94. Pure. pier. peer. pry. pair. pear. pore. prie. pare. poor. payer. pour. poze. pory. pray. prey. pyre. pieria. pyra. peroæ. pro. pero. apeary. opera. aporia. fury. furii. furia. four. fore. fairy. fair. fare. fear. fire. fiery. far. fur. free. fray. fir. for. fro. fry. furiæ. afer. afore. afar. afer.

95 Paoli. peal. peel. pole. pile pool. pylo. pail. pale. play. plea. ply. paula. pauli. paly. poly. poele. paul. apalia. opal. uplay. apula. apuleia. fail. file. foal. foul. fool. flee. flay, flue. foil. fly. flee. fuel. feel. folio.

No. 96—99.

96 Pad. paid. pied. pod. padœi. padua. pedo. pave. Iapydia. epode. fido. fade. food. feud. feed. fed. fid. foody. paveo. five. payday. afeedue. afoedue. ifIdo. ifIdie. ofaday. ifdue. pavo, pavie.

97 Peace. peek. piece. pike. poke. pace. pica. epic. apace. apiece. opici. apeak. face. fico. foci. ofoak. ofice. ofakey. ofayoke. ifice. ifoak. ifayoke. ifakey. ifcoy. epico. pouce.

98 Pew. paw. fabia. fowey, fowa. few. fob. fib. fub. fabii. pieboy. feeaboy. payaboy. payaway. pieaway. ifIobey. ifIbuy. ifIbe. ofaboy. ifaway. ifIowe. ifwe. ofwoe. ifIwoo. upabay.

99 Peep. papa. pope. pipe. pop. pip. pap. pup. appui. poop. epopee. appay. appie eppia. papia. pupia. fop. feif. fife. fap. foupe. off. ofia. offy. ifipay. ofapie. ofafee. ifafoe. payup. ofafoe. ofpay. afeepay. afoepay. pepie. pipee. poupee. poupe.

ERRATA.

Page 24---In the diagram of the ceiling, let the figures 40 and 20 change places.
24---For *Angular*, in the 15th line, read—crossed by the diagonal lines.
41---Thirtieth line, for *have*, read—has
54---Twenty-sixth line, for *transposed*, read—mistaken.
56---Fourth line, first word, for YOU, read—YON.
60---Fourteenth line, let the figures be pointed thus—1,432,94.
63---Seventeenth line, for *as ist* read—assists.
64---Eighth line after *the*, read—commencement of the.
71---Tenth line, for SMILE read—SMILE.
108---In the note at the bottom, for *number*, read—numbers.
113---Second line, read—On a table
129---First line last figures, for 22, read—28.

Omitted mentioning when treating on the Symbols,—that if the white paper which surrounds them be cut out, each sheet will then represent a room; floor, walls and ceiling.

Omitted mentioning—Page 119 ---that in learning the Multiplication Table by that method, Children should be taught to say, when gazing on the walls,---twice 2 is ROE, twice 3 is EVE, three times 2 is IVY, &c. &c.

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